CHAPTER 1

MEMORIES OF OTTO NEURATH

(The reports of eyewitnesses are used wherever possible)

1. Otto neurath's parents; the father's autobiographical sketch

Otto Neurath's parents were Wilhelm Neurath (1840–1901) and Gertrud Kaempffert (1847–1914). They married in 1881; their son Otto was born in 1882, and their son Wilhelm in 1889. Otto had one son, Paul, and Wilhelm one daughter, Gertrud; neither of these have children. Gertrud Neurath, in her quest for information about her grandfather, has traced some interesting documents which have been kept at the University of Tübingen:

(1) a letter from Wilhelm Neurath to the Dean of the Faculty of Political Science at the University of Tübingen, dated Vienna, June 30, 1880.

> May I herewith submit my *Economic and Socio-political Essays* with the request to grant me a doctorate in political science or political economy on the grounds of this work.... I have applied to be admitted for *habilitation* as a lecturer in political economy at the *Technische Hochschule*, Vienna. According to Austrian law *habilitation* in a certain department is possible only for a person who holds a doctor's degree in the same department, in my case the faculty of law. As I am not Dr jur., but D. Phil. of the University of Vienna, I am handicapped in my *habilitation*. Professor Roscher has pointed out to me that the Tübingen Faculty of Political and Social Science might consider me worthy of a doctorship of political science on the basis of my essays.... Should it be of advantage to give some references.... I might mention the following: Professor Dr Wilhelm Roscher, Leipzig; Dr Franz Migerka, Vienna, Austrian Minister of Trade; Mr Fiedler, Minister of Education; Imperial Councillor Edler von Mende, Vienna; Dr Bauhaus, former Minister, Vienna; Professor Dr E. Mach, Rector, University of Prague....

O. Neurath, *Empiricism and Sociology*
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(2) Autobiographical Sketch by D. Phil. Wilhelm Neurath, dated Vienna, July 5, 1880.

I was born in June 1840 at Bur St. Miklos in the County of Pressburg in Hungary, but registered at Bur St. Georgen where my father was domiciled. My parents were poor, very religious people of strictest morals. [Their religion was Mosaic and their language German, W.N. stated in another document, dated 1869, at the University of Vienna.] I left my father's home at the age of nine to visit the school of a small township where I remained to my twelfth year. I finished the primary school and the first year of a secondary school successfully, but could not continue because my parents were much too poor and also so orthodox that they feared worldly knowledge might shake my belief; I could therefore only help myself if I wanted to devote myself to studies which attracted me in a dreamlike way and with irresistible power. I went to several towns with grammar schools, earned my living partly by teaching, partly by copying; and, by teaching grammar school boys I taught myself. In 1853 I became assistant teacher in a private school and learned Latin by helping others to learn it. From early youth I had heard my father discuss questions of the causes of human suffering, and of the miraculously purposeful organisation of nature; my father was inclined toward theological contemplation and fanatical condemnation; I was deeply stirred when I heard of the mutual condemnation of religious beliefs, when I was only seven years old; at that time I took long lonely walks in forests and fields, far from all comradeship. In my shyness I remained isolated even in the towns and continued to dream about God's ways. This gave me strength to bear hunger, cold and sickness. I turned to science for insight; what was taught at schools was not enough; I wanted to read the great books about physics and astronomy. My mathematics, however, was insufficient; I then studied mathematics with such intensity that I tried to read Euler and Lagrange at the age of seventeen. When I was nineteen, Lagrange's *Mécanique analytique* was my favourite book. At the same time I studied ethnology. Anything unclear was unbearable for me, even in language; I wanted to clarify the origins of Latin, Greek and German words, and I turned to linguistics and the comparative study of languages. Prob-

lems of the infinitesimally small, of evidence in mathematics and mechanics, etc. made me think about the foundations of knowledge in general, but I did not know how to go about this. Fortunately I had to introduce a philosophical writer into the elements of analytical geometry and differential calculus, and he recommended Kant's *Critique of Pure Reason* and especially his transcendental aesthetics. Now a new life started for me. I was a materialist and atheist at that time and believed in the communist form of society as the only solution. The study of Kant liberated me. Through Fichte's philosophy, Herbart's metaphysics, Schelling's and Hegel's theory of evolution, I was led to a historical conception of justice and social life; I found this confirmed in the writings of the school of the history of law, in Montesquieu's *Spirit of Laws*, and in the doctrines of Friedrich List and Wilhelm Roscher.

My powers of thinking and understanding were better developed in this way than my abilities to handle or reproduce any knowledge. In addition, I was extremely shy and diffident. Though many of my pupils succeeded in their final examination at the grammar school or in university entrance, I did not have the courage to take any examination myself; at last, I did so in 1866, with excellent success in all subjects.

From 1866 I studied at the University and earned my living mainly by teaching, especially in commercial subjects, political economy and philosophy, but also by writing for newspapers, especially for Fröbel's *South German Press*. Soon I received a post as a teacher of political economy at a private institution. I was confirmed officially when this became a public institution and stayed on for twelve years. At the university I studied science at the Faculty of Philosophy and became D. Phil. [August 1871]. I continued to attend lectures at the Faculty of Law.

By lectures and articles on economic and socio-political subjects I became known in commercial circles and was asked to be secretary of the *Reform Society of the Viennese Merchants* and was elected as first vice-president of the *Vienna Commercial Association* in 1874. Its present president is Dr Franz Migerka, Ministerial Councillor in the Ministry of Trade. All these activities have introduced me to the more practical world of trade and industry. [Franz Migerka was married to Katherine Kaempffert whose sister, Gertrud, became Wilhelm Neurath's wife in 1881.]

After emotional and physical upsets which led me to despair, I formed my present pantheistic-theistic conception of the world. Disgust with the maliciousness of people and the world made me wish to end my life, but I was obliged to stay alive because I was responsible for a beloved mother and several younger brothers and sisters after the death of my father in 1861. Through mysticism as expressed in the German Middle Ages, I found a restfulness of mind and a serene attitude that gave me strength to continue my scientific endeavours.

2. Otto Neurath's Childhood, from Autobiographical Notes

(Excerpts from the manuscript of an unpublished book, *From Hieroglyphics to Isotype, A Visual Autobiography*.) [See Bibl. Nr. 277]

Autobiographical sketches are sometimes rather indiscreet. Just when they become particularly interesting they often hurt the feelings of other people who appear in such an autobiography as co-actors. I think I can promise that these autobiographical chapters will hurt nobody.

I was brought up in a scholarly home in Vienna. Even as a child I was already looking at shelves and cupboards full of books, and the impression they made has accompanied me throughout my life. In the entrance hall of our flat stood extraordinarily big glass bookcases crammed with books and pamphlets; book shelves up to the ceiling covered all the walls of our drawing room and my father's study. Later on books appeared also on my own and my brother's shelves.[1]

I believe I made my first mathematical estimates counting the number of books in the library. I counted the number of shelves and the average number of books in each shelf – mostly arranged two rows deep – and arrived at a total of about 13000. They were all at my disposal; I was allowed to rummage in the library to my heart's content. My parents assumed that a well-treated child would be less interested in unsuitable books if none were forbidden rather than if some were put on a kind of 'index'. Whether this principle is generally advisable I shall not try to decide. In any case I think it was an advantage that, while still a small child, I came into direct contact with books which later on were to become of importance to me in some way or another.[2]

Before I could read properly I started looking into books with pictures and maps. This predilection was reinforced by the arrangement of the library. The big books, many of which contained pictures and maps, mainly filled the deep bottom shelves and thus were immediately at hand. I could take them from the shelves onto the floor and then lie down and look at the pictures – a bodily situation particularly liked by children.

I liked pictures where the colors were clear and not vague. There were books which presented craftsmen at work together with their tools, but I soon discovered that the tools in the key charts did not harmonize completely with those used in the workshops, and I disliked that very much. I was even more distressed when a picture showed details I could not distinguish sufficiently or details which did not help to explain anything. I discovered that pictures made for children were very often full of mistakes.

Is it not odd that I never asked anybody about these things? My father was prepared to speak with me, even when I was a small boy, about any subject I liked, from chemistry to philosophy, from human behavior to architecture. I knew perfectly well how to tell in which way a book was very instructive or disturbing or difficult. But I cannot remember that I ever mentioned a picture as particularly informative or dull or irritating. Pictures had been discussed only from an aesthetic or historical point of view, not as a means of communication. I think I did not even tell my father when I discovered a mistake in a perspective drawing although he had arranged for me to attend university lectures on projection when I was only fifteen. I think it was only a lack of tradition which prevented us from speaking of visual details; I cannot imagine any taboo-like inhibition playing a part in that silence.

Please do not think that I lived among books only. I had my full share of outdoor life too. Our family spent several months in the countryside every year, sometimes in the mountains, and so I became acquainted with trees, flowers, butterflies and caterpillars, with cows and horses, with handicraft of many kinds, with rivulets and wells, I could build little water mills in the streams, and once I built Caesar's bridge across the Rhine, based on drawings in a history book. This little structure was so strong that I could stand on it (but I had built it at a dry spot).

The museums in Vienna played their part in my visual upbringing. Very soon I discovered that museums are usually collections either of beautiful

things or curiosities or of historically or scientifically important material, but that they do very little to provide answers to the questions their visitors might have about their collections. I had to look into books to find even the most primitive facts about the treasures I saw.

I think the strongest impact on me was made by the Art History Museum which was opened, together with its twin, the Natural History Museum, when I was a small boy. Occasionally I tried to draw some interesting tools or weapons in my notebook, a hobby which accompanied me through life. (Looking back I realize that I have always been interested subconsciously in the problem of producing either a simplified scheme or, on the contrary, a highly realistic picture complete with all details. Even as an adult, I can sit down with colored pencils, slice a hemlock stem with my penknife and try to depict the fine hairs, the leaves in their purple, yellow, and bluish greens, and other details.)

I was sensitive to the appalling contrast between the pompous entrance hall of the museum and the rather quiet and modest main rooms of the Egyptian department which one immediately entered from the big hall. The Egyptian wall paintings attracted me particularly. I could understand each depicted detail; I could see men and women in their daily activities; everything simple and perceivable, telling its story. This informative character made me feel at ease. I could not see the same simple details in the adjoining rooms devoted to Greek and Roman antiquities.

I cannot remember when I first realized with a shock that all the clear cut Egyptian wall paintings which I liked so much had belonged in some way or other to an underground world; that all this picture pageantry existed only for the dead.

The charm of the hieroglyphics has never ceased to fascinate me. I disliked the fact that they changed into the characters of current writing, only legible to the initiated. Why should not everybody get a chance to learn a lot by means of pictures? Now I know that these things belonged to the priests and to the dead, not to us, the men in the street, who want to take part in everything that happens on earth.

Within my personal life there was a visual tendency from death and dream to life and action, always within the realm of visually well defined elements. And just the visually well defined elements and their combinations accompanied me throughout my life, up to the time when it became a planned activity within the ISOTYPE scheme.

3. University days

(Contributed by Marie Neurath).

Otto's first terms in Vienna were spent studying mathematics. Fellow students were Philipp Frank, Hans and Olga Hahn, and Anna Schapire, his future wife, who was studying German literature at the time. When Otto first met Anna, she had not talked to anyone for weeks. They went to Berlin together to continue their studies. Before finishing them they spent some time in Switzerland where Otto had been sent by some friends to recover from malnutrition. (His father had died and Otto had been reduced to living on an absolute minimum.) In Switzerland he had a room with an oversized table, just what he needed to organize his work. He was not only writing his thesis on the history of ancient economics but also editing the works of the German romantic poet, Ludwig Wolfram, whose biography he was writing as an introduction. The table was divided lengthwise; one side taken up by all the documents and notes for the one book; the other side for the other book.

In Berlin, Otto met the Russian logician, Gregorius Itelson, who was probably the strongest influence upon him at that time. Otto took a friend to meet Itelson, but after several visits the friend stayed away saying that if he went on listening to Itelson's devastating criticism he could not go on studying his subject. Otto stood the test and accepted the strictness of expression; I think it was at that time that he made his first *index verborum prohibitorum*. One of the words on the index was 'capital'. When later during his 1919 trial in Munich a sentence was read, alleged to have been uttered by him, he answered: "I have never said that." "But how can you know, you have given many lectures?" "The sentence contains the word 'capital'; I never use that word." Later Otto was to enjoy moulding young people's habits of thinking and speaking just as Itelson had; and he had the same experience as he became aware that few were willing to shed old habits and start afresh.

4. Military life

(Contributed by Dr Ing. G. Neumann of Florence, who built the first light bridge in reinforced concrete near Bergamo in 1911 and invented the system for slab construction now in general use in Italy.)

I want to tell only what I have witnessed myself. I have to probe my memory and bring to life what it has stored. Though much has been lost or become very faint, Otto Neurath is still there, radiant, alive. I owe him a great deal. He gave generously from his fullness and was therefore considered abnormal by many; indeed, he had moved away from dull normality. It was through him that I learned about scientific management. Through an idea expressed by him I have gained fundamental insight into the problem of the load test.

1906. For my one year's 'voluntary' military service (in fact there was nothing voluntary about it) I joined the army service corps because it was situated in Vienna and not in the provinces; because there was less drill than study; because it had a humane commander and educated officers; and because there were a great number of university graduates among the trainees.

When the commander, quite pleased with our group, first met us, each of us had to give our name, occupation, degree, etc. We heard 'student', 'Dr Jur.', 'Dr Phil.', and after my 'engineer' we heard, 'Dr Neurath, author and private scholar'. The commander did not seem to understand and all eyes turned to an oversize, somewhat pale man with a long beard – though according to army rules one had to be shaved.

To test his pupils, the commander gave them an essay to write. Thereupon we heard the respectful question from our private scholar whether he might bring his typewriter. (This does not sound as strange today as it did sixty-five years ago.) The typewriter was not allowed. We got sheets of paper and the assigned subject – 'Steam in the service of the army'. We racked our brains to fill a page or two; Dr Neurath filled fourteen pages.

Two days later the commanding officer arrived with the bundle of sheets and expressed his satisfaction that nearly everybody was able to express useful ideas clearly. Dr Neurath, he said, had almost written a book, but he would have advised him to change the last paragraph as it might be misunderstood. And he read the following to us: "Should I have children, and should one of them do military service in a quarter of a century, and should he be fortunate enough to do so in the army service corps, and should again a clear-thinking school commander test his pupils, the subject would then no longer be steam, but electricity in the

service of the army." Was he not right, even in 1906? But who else would have had the courage to say so frankly?

Our barracks were damp and smelled of yeast. Life in them was gloomy: lessons, practice, drill, other activities, or just passive presence. There was no escape. Only one of us succeeded in escaping for a fortnight, Dr Otto Neurath, and we admired him. He got permission to go to Berlin for two weeks to supervise the publication of his thesis. He returned with the bound volume and dedicated a copy to the commanding officer to show his gratitude. We had seen that the book dealt with commerce in ancient Rome and that most of it was in Latin; there were only three or four pages of a summary in German. Three days later the commander entered the classroom and while we were still standing he gave official thanks to Dr Neurath for his dedication. He said that he had read the book with great interest (we knew that he did not know Latin) and had learned from it that there were already merchants in ancient Rome. Dr Neurath enjoyed this speech, and we laughed together about it afterwards.

Occasionally it was possible to get leave of absence from the army doctor, though hardly ever for more than two days. But Dr Neurath managed to get it for an indefinite period. I do not remember what his complaint was. He went to the surgery for an examination. "Nothing of importance. Dismissed", said the doctor, but he did not know Dr Neurath then. Neurath did not leave but started a detailed description of all his symptoms, of their possible causes, developments, effects, etc. Helplessly the doctor asked in the end, "How many days do you need?" I think Neurath restricted his request to eight days and returned at the end of that time, only to re-enter the surgery and begin again another long-winded argument, cut short by the doctor's "Well, how many more days?" And after two minutes, Dr Neurath left for another week. But after that he made only limited use of his power over the army doctor.[3]

Among our group were gifted and distinguished people: a future minister of the Austrian government, a future attorney, and the scholar Friedjung. But none was more celebrated in the illustrated military school magazine, produced to celebrate the end of the year's training, than Dr Neurath. These verses were the center piece because of the excellent drawing by Ofner, a gifted caricaturist:

> There was a good old state-mill, the mill that had a wheel,
> It had indeed milled hundreds of hundredweights of meal.

It is a decent mill wheel, it does not stop nor shirk,
But suddenly comes Neurath: this mill it cannot work!
For all the apparatus is stupidly arranged:
The filter high above – no – that all has to be changed!
He sits and sits the nights through, he draws and draws again,
And for the mill's arrangement he makes a novel plan.
He runs to high officials, he speaks with all his skill,
And demonstrates with drawings what's wrong with yonder mill.
One listens and believes him; they do as they are told;
One did not shun the labor, one did not save the gold.
And when the work was finished it was to be approved.
But on the day of trial the mill could not be moved.
Is Neurath struck with horror, is Neurath struck with fright –
He jumps into the mill works, he jumps with all his might.
The mill, the mill is stirring, the mill begins to play,
And if it never stopped, then... it's turning still today.

1917. Since the days of our military service together, I have met Dr Neurath only twice, in 1917 and 1919.

I had to go to the Ministry of War during my leave in Vienna, and leaving the lift I met Dr Neurath who was about to enter it. We exchanged our news. My story was quickly told. His ran like this:

> "My service in the army corps was not hard but boring. Then I had an idea, and I put it before the general. 'Your Excellency', I said, 'we are in the middle of the war, we do very little here and should do so much'. 'What do you mean?' 'We should found a department for war economy and start work seriously. We are learning a lot from successes, even more from failures, but nobody has time to keep a record of our experiences for the benefit of the future. Through such neglect, they will all be lost and wasted'. The general pondered and said, 'There is something in that, but what would you suggest?' 'Probably it would be best if a special department of the War Ministry should concentrate on this task. It should have an intelligent, open-minded and experienced head; there could, I think, be no better person than your Excellency'. 'Hm, this is worth considering. Please write a detailed memorandum for me'. And so it happened that I am now here, organizing this department under his Excellency. I have appointed a number of experts, Professor X, Professor Y...".

I asked if he had any use for me but he thought I was doing a somewhat sensible job anyhow and was not absolutely wasted.

1919. In 1919 I met him in the street, near the *Sezession.* He told me of

his Munich experiences so vividly that I could see him before me, in the *Karlsplatz* in Munich, among his proletarian listeners, he, the intellectual, telling them what socialism really means.[4]

5. A TEACHER OF POLITICAL ECONOMY

1908–12. (From M. Y. Ben-gavriel: *The Flight to Tarshish: An Autobiographical Report*. Copyright Hoffman und Campe Verlag, Hamburg, 1963; translated and printed with permission.)

[The author refers to himself as Marc Faktor. He enters the Neue Wiener Handelsakademie (New Vienna Academy of Commerce) in 1908 as a student. An older student informs him about the teaching staff.–Ed.]

pp. 287–88 (about the director)

Obviously this chap from the Sudeten is an anti-Semitic German Imperialist to the bones. It's equally obvious that he brought with him only party friends as professors. You may have noticed their faces, scarred by fencing, at the opening ceremony?.... Well, there are a few Jews, but they have no say. Jerusalem, the son of the philosopher, and Simon, the mathematician who is mainly interested in Esperanto, and yes, of course, Neurath. A perfectly obscure character, said to be either socialist or a friend of the industrialists.

pp. 296–97

Whoever did not matter as political friend or opponent was without interest.... Only one continued to be an enigma to the students of the Academy, politically and, in the last resort, also personally: Dr Otto Neurath, Professor of Political Economy. A giant, bald, and with an enormous red beard of wild shape, who had fists like a sailor and wide clothes of strangely boorish cut, he opposed any political activity vigorously. Marc recognized in Neurath a personality of unusual format and was soon convinced that he was linked with him by something which he could not explain nor even express. He had to know this man properly, to get in personal contact with him. He plunged into the study of political economy with more intensity than he had ever applied to any other study. Again and again he endeavored to attract this teacher's attention. He started discussions which should show up his profound (as he believed) knowledge of Marxism. Neurath parried, unruffled, and attacked Marxism, and socialism generally, with sarcastic words. Marc was furious... because the other remained an enigma to him.... For four years this fight went on, relentlessly waged on both sides. It gave Marc more knowledge than he could have acquired under ordinary circumstances....

p. 310 (For the first time a short article by Marc had appeared in a newspaper.)

At school he experienced his first disappointment as an author. Nobody made any remark about the article.... Marc was sitting opposite Professor Neurath in the economics library in the afternoon and when he cut out the article from the newspaper for his collection he saw that Neurath made a start as if wanting to say something. A word of praise from this side meant more for him than any other. But the professor said nothing and Marc went home disappointed.

pp. 313–14.

Those were glorious days for Marc when the fight against the director united all parties at the Academy.... The assembly resolved to present an ultimatum to the director, to threaten strikes, to organize demonstrations in the street.... The next morning the memorandum was presented. Some professors preferred to be absent, others behaved as if everything was in order. When it became known that the director refused to receive a delegation... the mass pressed forward.... At this moment a door opened and Neurath's wild beard appeared on the scene. "Turn back!" cried the professor and barred the way, arms spread out. Marc who was concerned with avoiding a conflict with Neurath especially, grasped the situation at once and roared as loudly as he could, "To Parliament!" His comrades responded instantly, the rear of the column turned back, down the staircase, and the others followed....

[From Ben-gavriel's letter in reply to M.N.'s request to permit reprinting the above: "Your letter revives the memory of a period which belongs to the most grotesquely senseless in my rather varied life. The confrontation with your late husband – who was one of the very few persons who (without knowing it) had a decisive influence on my development – was the only positive thing in that period. It was therefore understandable that I tried to represent him in my autobiography though I did not solve the enigma that he had been for me....

After having left Europe for good rather early, I have only twice read about your husband in the newspapers: during the Munich episode, and then, by accident, about his death.... He was the only one among my teachers who interested me, arousing opposition in the most fruitful way...."]

6. Excerpts from Ernst Lakenbacher

'In Memoriam Otto Neurath: Personal Reminiscences of the Man and his Work', (published in *Argentinisches Tageblatt*, Jan 4, 1946)

We – a few scattered intellectuals from all corners of the Imperial Royal Austro-Hungarian Monarchy – were sitting in a room of a lonely farm which was an advance base of the Army Service Corps, near the Galician-

Russian border. Conversation struggled along from subject to subject; in months of living together all had been said which needed saying when such heterogeneous elements are thrown together. Suddenly the door opened and in came a redbearded giant, Dr Otto Neurath, our new brother officer and commander. After a very unconventional introduction, our location was inspected and, in three hours, all those rearrangements were performed which we had neglected for weeks out of pure indolence. Thus we met and our friendship began.

Otto Neurath, at that time professor of political economy at the New Vienna Academy of Commerce, was quite well known even then. He was the son of a Viennese scholar who had written a very useful textbook on political economy, long out of print, which I had discovered in a second-hand bookshop and vaguely remembered from my reading, years ago. This, more than my acquaintance with some of Otto Neurath's own writings, won me his favor. On that first evening, when a precocious ensign dared to cast doubts on the radical reforms in the sanitary arrangements for officers and men, Otto Neurath amazed us by delivering a socio-historical lecture on a subject which he called 'abortology'. The localities devoted to the disposal of the waste products of human digestion in all areas, periods, and peoples were depicted for us in a fascinating talk of several hours, in defense of the choice he had made in our special case.

Otto Neurath was not yet a socialist although he knew the history and theory of socialism as well as any intellectual Marxist and although, with intellectual equipment and apperceptive individuality, he was well prepared for socialist ideas. Since I had grown up working for the labor party and trade unions, we had passionate discussions through the days and nights. We shared a room which he transformed in less than twenty-four hours into a cozy study, making use of old crates and pictures from periodicals. Otto Neurath had been known to me as the author of an economic history which Otto Bauer and Max Adler, my teachers in the Viennese workers' education school, and Professor Eugen Phillippovich of the University had recommended to their students. Not yet thirty years old, Otto Neurath had made considerable contributions to several separate fields of knowledge, such as a study of Goethe and a history of optics, in which he had a deeper insight than many an expert. As a consequence, a colleague at the Academy of Commerce, a professor of literature, asked him whether the literary historian Neurath was his brother, and Otto,

with serious dignity, answered, yes. [(The colleague talked to 'both brothers' about their brother, and it took him some time until he discovered that he was the victim of a rather unintended practical joke. Otto, though enjoying it, regretted it all the same. One should not do this sort of thing, he said, and never did it again.) – M.N.]

In the intervals of conversation – his preferred form of intellectual work – he developed and improved his study of war economy, his pre-war visionary insights not having become known beyond a narrow circle.

The war, which had thrown us together, was to tear us apart. His transfer looked like punishment – he had bombarded his superiors with ideas bubbling from his creative brain. Though he was as little warlike as any Austrian from the emperor down (the Sudeten Germans excepted), it was his character that drove him to create perfection wherever he met deficiencies in his area of responsibility.

The experience of war developed his socialist leanings completely. He was in Germany when the war ended and the revolution attracted him with magical power. Here was the chance of a lifetime to organize a new world. He worked on the practical task of socialization – deserted by all of us, never fulfilled. When the pre-Hitler fascist hordes under von Epp in Bavaria made him prisoner, he was in danger of execution. Alarmed by the news, a few of us hurried to Otto Bauer, who was Foreign Secretary of the Austrian Republic at the time, and through his intervention Neurath was able to come to Vienna after spending a few weeks in prison.

The Austrian Social-Democratic Labor Party failed to make full use of this born leader, this extraordinary man who combined organizational power, all-embracing knowledge, and the gift of presenting it in a lucid and fascinating way. Moreover, the intellectual was met with distrust by those officials of the party who had worked their way up through the years. He was pushed onto a side-rail; and there he created something extraordinary again. Hugo Breitner, another intellectual outsider but then in the front ranks of the Social-Democratic Party and also the financial head of the City of Vienna, put funds at Otto Neurath's disposal with which he created the Social and Economic Museum in Vienna. It became a place of pilgrimage for scholars of the civilized world. Like any ingenious invention, his method of pictorial statistics seemed an obvious solution.

7. From Wolfgang Schumann

(Stepson and successor of Ferdinand Avenarius, Dürer-Bund, Dresden.)

It was around 1906 when Neurath first offered contributions to our periodical, *Kunstwart and Kulturwart* [a literary journal of high standard.–Ed.]. These were published under the pen-name 'Karl Wilhelm' (Otto's second and third names) and treated single sociological questions in an original, palpable, and bold way. After some time, I asked Neurath to cooperate in the 'Literary Annual Review' and the 'Literary Guide of the Dürer-Bund' which I edited. Through the years he was one of the most active collaborators. At that time I had had no scientific training; I was only twenty (Otto's junior by five years) when I met Neurath. He was devoted to a scientific approach, harshly criticizing any loose talk and decorative verbiage, and strongly self-disciplined in his writing. I soon decided to base my publications on his principles and had them adopted by all contributors. This was the strength of our 'Guide'.

It was, I think, 1908 when I met Neurath personally for the first time. I went to see him in Vienna where he lived on a small street with his wife Anna. My first visit made an indelible impression. I was a rather well-brought-up middle class child; Neurath appeared wild and passionate. He abused Wilhelm Wundt whom I had heard mentioned only with reverence. Now I heard that Wundt's *Ethics* was the work of a philistine, that it was dishonest and base. Later he told me of his research into the character of lavatories in Vienna, especially regarding their coziness. I was startled, but extremely impressed by the man. I had no difficulty in getting his permission to edit his contributions.

Anna, a few years older than he, somewhat more civilized and highly intelligent, reacted with criticism and irony to many of his more daring statements and thus contributed to his maturing. He seemed to know and appreciate this. When Anna died in 1911 after the birth of their son, Paul, Neurath sent me a telegram. I went to see him at once and found him deeply depressed, even considering suicide. Not long afterward, he married Dr Olga Hahn, his blind friend, who had graduated in logic and mathematics. She was as intelligent as Anna, also had a streak of irony, but on the whole was more amiable and tolerant. She was witty and broad minded, a strong personality who bore her blindness with courage and deter-

mination. Her general pessimism was softened by a humorous vein. Many people in Vienna reproached Neurath for his quick remarriage. Both Otto and Anna had been close friends to Olga for years.[5]

Neurath received a Carnegie Foundation scholarship at that time to enable him do research into problems of war and peace without any limitations on the scope of his project. He travelled to Galicia to study the Eastern churches and then to Bohemia, where I accompanied him, for the same purpose. His studies of war economy had begun about 1911, and he was collecting material from many sources. He travelled into the area of the Balkan wars and learned to know war and war reporting. From these experiences his theory of war economy was developed. It broke new ground and essentially influenced his ideas of social planning.

During the First World War Neurath had seen a great deal of Galicia as an officer of the Army Service Corps, especially since he was in the habit of taking long horseback rides through the countryside in the early mornings. Later he became the commander of a small occupied Jewish town (Radziwilow). He told stories about his experiences there in the funniest way when he came to see us in Germany during leaves where he had to look after the production of equipment which he had invented. One was a special cable-railway, the other an aiming-device for aircraft; both actually were used.

Toward the end of the war when Neurath worked at the War Ministry in Vienna, he was also appointed director of the Museum for War Economy in Leipzig which was a venture of the Chamber of Commerce there. I became its General Secretary. Models and charts were in the making. This was the beginning of those activities of visualization which Neurath continued and fully developed in his Social and Economic Museum in Vienna.

The general collapse put an end to the museum too. The so-called revolution took place. Many political groups were fighting one another, governments saying yes, saying no, doing nothing. About this time, perhaps December 1918, I had a long talk with Neurath and urged him to work out a plan for socialization, to join the Social Democratic Party, and to propagate his plan. This was a difficult decision for him to make: it meant the end of his career as an independent scholar which had led to a lectureship at Heidelberg University (with Max Weber), and the

beginning of involvement in socialism and revolution. The decision was even harder because Olga opposed it violently; she foresaw bitter consequences. But only Neurath could have done this essential job. My friend Hermann Kranold, editor of the 'Chemnitzer Volksstimme', joined forces with us and we published Neurath's ideas as the *Programm Kranold-Neurath-Schumann*. Neurath began to lecture at mass meetings. He was extremely fascinating and made an enormous impression, especially in the mining areas of Southern Saxony where his lecturing tours were like triumphal processions. How different it was to talk to party bosses or members of the government; with them there was nothing but the most annoying resistance. Neurath had begun to publish leaflets in Munich, and there his ideas met with more response. He was invited to lecture and, in the end, the Social Democratic government of Hoffmann, mainly through the enthusiasm of its Trade Minister Josef Simon, invited him to create, lead, and put into action a central planning office for Bavaria. He accepted. Kranold and I were to join him and we went together to Munich. We found nothing prepared – no office, no typewriter, no staff. We produced leaflets and lectures and Neurath created the first working units for economic central planning. It was not long before communists, independent socialists, and anarchists proclaimed a 'soviet republic'. The Social Democrats fled; Neurath stayed on without declaring his allegiance to the new system. I departed, thereby annoying Neurath and deeply hurting his feelings. Soon there was civil war and much blood was shed by the victorious 'white forces'. Neurath was arrested and sentenced to eighteen months of confinement in a fortress. Max Weber appeared as a witness, partly in his favor, partly against! The Austrian Government effected his exchange to Austria, so he was spared the hardship of jail. He returned to Vienna. His lectureship in the University of Heidelberg was lost, and he was not allowed to enter Germany until 1926. Our little appendix to the *Kunstwart* 'Economic and Social Order' had failed; the last link between us was broken.

But we met again. I saw him several times in the Hague, before as well as after Olga's death. He lived in a nice house, not far from his office. He was giving the best part of his energies to the Unity of Science Movement. In human quality he was wonderfully matured; the sharp over-aggressiveness of his earlier years had given way to a balanced serenity. I mourn him, this friend of friends.[6]

8. AUTOBIOGRAPHICAL EXCERPTS FROM OTTO NEURATH

Experiences of Socialization in Bavaria (from a lecture given in 1920 to the Sociological Society of Vienna)[7]

I am going to report of the movement for socialization in Saxony and Bavaria in the year 1919. It is difficult for one who has taken part to find the necessary objectivity; understandably one is emotionally involved and inclined to be bitter or to give unfounded praise. I will keep away from critical remarks as far as possible and report nothing but facts.

At the beginning of the revolution people were as unprepared for the task of a socialist economy in Germany as they had been for a war economy when war broke out in 1914. Labor leaders had taken over the government essentially without opposition. The ruling classes, conscious of guilt and oppressed by fear, were ready for far-reaching concessions. But the German Social Democratic Party had not worked out an economic program and was unable to put forward clearcut demands for socialization. Any preparation for consciously shaping the economy was lacking. The technique of a socialist economy had been badly neglected. Instead, only criticism of the capitalist society was offered and the Marxist pure theory of value and history was studied. That was why, when revolution broke out, a commission for socialization had to be called to discuss the basic principles. Longwinded, sterile debates took place, showing disagreements of all sorts, without producing a uniform program.

The struggle among independent socialists, social democrats, and communists was concerned mainly with the questions of the distribution of power and the organization of government, i.e. should the ruling organs of society be soviets, parliaments, congresses, etc. It is widely believed that individual socialists have a more radical program than the members of the majority party of social democrats. That is not so. There can be no doubt that Kurt Eisner, with his extraordinary talent for political action, was one of the most energetic and deeply convinced socialists of Germany. Yet, while he was in a powerful position in Bavaria, he appointed Lujo Brentano chairman of the commission for socialization. Brentano, the most distinguished of living German economists, is the spearhead of liberal tradition. How is it possible that Eisner, who desired socialism with every fibre of his heart, put this vital office into the hands of a liberal who

obviously did not want socialism? Does it not show that there was no program at hand and that the party had no idea how to make use of their own economically trained members in the service of their common aim?

On January 23, 1919, I discussed these questions with Eisner and tried to show his minister of finance, Professor Jaffe, that we would have to face the greatest difficulties if the ruling party itself did not take charge of the reorganization of the economy. Jaffe suggested that I deal with this question before the council of workers in Munich. I gave a report on the character and course of socialization (*Wesen und Weg der Sozialisierung*),[8] restricting myself to social and technical construction, disregarding political power. The workers' council reacted favorably.

Toward the end of January, following this lecture, I was in Saxony. Hermann Kranold, a well-known economist and member of the Social Democratic Party, had been asked by the Social Democratic government to prepare a memorandum on socialization. We had much in common. He suggested that he and I should join forces with Wolfgang Schumann in working out a clearcut program. We did. Our program proposed a central planning office with participation of ministries, cartels, co-operatives, and trade unions. Associations of producers and consumers should be formed. The problems of the workers' organization, according to trade and shop, was seriously considered. Ideas were developed about laws of expropriation; about compulsory service within the economic scheme; about a minimum provision of housing, food, clothing, education, and amenities for leisure. The Prime Minister reacted with utmost scepticism. He declared that he showed his high sense of duty much more by opposing me than by agreeing with me in order to earn the workers' applause. His hesitation caused unrest. I had many opportunities to meet workers in the mining districts and was startled by their deep mistrust of the government. They took it for granted that the Prime Minister was bribed by industrialists. When I asked them how they knew, they said: you see that nothing happens. They also took it for granted that "Spartacus will come". Though a majority, the Social Democratic workers would not oppose the Spartacus groups because they were fighting for their cause in some way. I saw that the constructive forces we tried to bring together were weak compared with the destructive forces which wanted to force a new way but lacked any program.

A unified program could have co-ordinated and unified action. For

example, miners in Saxony and Bavaria declared that they were perfectly willing to cut more coal but why should they work harder to heat the luxurious houses of the new rich? They wanted to know what happens with their coal. When asked whether such a request was justified, I replied that of course it was. What they want is the control of the whole economy; that is what we want too.

Kranold, Schumann, and I were in a difficult position: we thought the Berlin program for socialization of the nation (Wissel and Moellendorff) was unsuitable to bring about the gradual development of a comprehensive socialism. Of what use are partial expropriations here and there? They do not affect the overall control. If coal mining is nationalized and the state does not reserve for itself the control of distribution, the coal can go to the luxury of the new rich as before. If, on the other hand, the state leaves mining to large organizations but reserves the control of distribution, its influence is incomparably stronger. From the beginning we have stood for a complete control, embracing production and consumption, for a complete socialization, not for a partial one.

The fate of our program in Saxony was this. At first the central commission took notice of it and published it. We tried to explain it in newspaper articles. I gave speeches to workers in Chemnitz and in the mining district. Industrialists were opposed and countered with the suggestion of a pre-socialist program to co-ordinate industries, but they failed to agree among themselves. Common import and export would have been essential; we particularly favored an exchange between the imported raw materials and the exported finished products. It seemed essential to bring about a co-ordination of the programs of the highly industrialized Saxony with the predominantly agrarian Bavaria to mutual advantage; the Leipzig Fair should serve this function. Antagonists accused us of wanting to cut off foreign relations and introduce self-sufficiency.

The situation in Bavaria was critical. On the 21st of February, Kurt Eisner was killed. Feelings of revenge were aroused. There was political upheaval. Central Council, Cabinet, Parliament existed side by side, and the share of power of each were under discussion. Schumann and I went to Munich to suggest to the Central Council common action with Saxony. It was decided to send a telegram to the government of Saxony: both countries should send commissions to their common frontier for negotiations. Saxony's reply was hesitant. Schumann and I reported to the

representatives of all parties in Saxony on March 19th. None of them had confidence in our program; certain measures were adopted only under the force of circumstances. A telegram called me to Munich on March 21st. The independent socialist Minister for Commerce, Trade, and Industry, Simon, offered me the presidency of the central planning office for Bavaria. I accepted, stressing that I wished to be an unpolitical administrator. I had to put the case to the Cabinet at several meetings. Minister Simon backed our program fully; other ministers were more hesitant. He had seen (modern industrial) conditions in America and was more open-minded to thorough re-organization and was seriously concerned with preventing chaos by enacting the right measures at the right time.

It was obvious that socialization in Bavaria was impossible without the active cooperation of the peasant population. Actually the representatives of the anti-clerical peasant association had been in favor of the telegram to Saxony, and our program was also widely accepted in the Bavarian People's Party. Schumann and I explained to its leader, Dr Schlittenbauer, how peasants should be organized in co-operaives. There should be many co-operatives by free choice, whose political allegiances should not matter; all of them should be part of a central association. Private holdings exceeding a certain size should be under direct control of the co-operatives which should also control agrarian production and consumption; only in emergencies could the government interfere. On March 24th Dr Schlittenbauer called a meeting in Regensburg. In a moving manner he explained to his followers why he made the unusual request that they give their attention to a Social Democrat: "As we strive for peace in international relations and seek an end to hatred and fighting, it would be in the Christian tradition to listen to one another if we want to solve the problems of the immediate future." Listen they did, and they applauded our decisive socialist demands. There is much anti-capitalist sentiment among small and medium peasants; only if all opponents to capitalism joined together would socialist measures have had a chance to be realized in Bavaria without terror. Although the Bavarian People's Party later attacked me violently, some of those early suggestions have survived. And in 1920 Schlittenbauer declared himself openly in favor of a radical, planned economy.

Prime Minister Hoffmann was of the opinion that Parliament should be sounded about the proposed Central Planning Office and since Parlia-

ment had adjourned, he approached its commission on socialization. I ad to develop our plan before this commission on March 25th. I suggested the creation of a central planning office with statistical departments and departments of industrial, trade, and peasant associations and, in addition, a large cooperative settlement according to ideas of Kropotkin and others. This latter plan was to give a chance to men like Landauer and Mühsam who had a considerable influence in Munich. Landauer was a fascinating speaker and won much sympathy. I pleaded that his group be given one of the crown estates. To give them 10 millions for an experiment would be better than to lose 10000 millions were they to start another revolution. I pleaded in vain. Later developments showed how unfortunate this was: the Soviet Republic was decisively influenced by the Landauer group.

The program aimed at avoiding clashes between the agrarian and industrial populations; to have the industrial workers dictate matters of economy at one time, the peasants at another, would be unbearable. Much friction can be avoided by organizational methods. Agrarian and industrial sectors could become separate wholes. In addition a center of administration had to be created on socialist lines which would rely on the workers' loyalty. But in the beginning of 1919 everything was in a state of dissolution. Trade unions had little influence; workers took things in hand themselves at many places. All confidence was gone, even in the most neutral bodies. There were rumors among Saxon miners that employers reduced production to increase prices and would only allow full output when maximum prices had been fixed, and that the employers' way of reduction was sabotage by misdirecting transport in the mines. Investigation through government bodies was suggested. But "they are bribed," the workers said. So we advised adding workers from the pit to the investigating commission.

The problem we were faced with was how to stimulate the workers' interest in participating in the planning and control of production and distribution. We know what bureaucracy is; we don't know whether the new bureaucracy we are to create will be any better. (To counterbalance it, workers from the shop have to be co-opted but then periodically and automatically to be sent back so as not to become bureaucrats too.)

After having outlined the project, the essentials – although not all details – were unanimously accepted: the creation of the central planning

office, the planning of food production, and the co-ordination of work for housing and clothing as public utility. In the days following there were violent attacks by the press who sharply criticized the democratic representatives for having given their vote for this program. Demands for separation of Bavaria from the rest of Germany flared up, especially in the north of Bavaria.

I was appointed president of the central planning office on March 27th. Simon urged this and all the ministers agreed with the exception of Hoffmann, the Prime Minister. He did not believe that the time was ripe for socialism; he did not share my belief that full socialization could be achieved in five to ten years. All around Bavaria there was unrest, how could Bavaria be spared from it? Simon and I were of the opinion that only serious and thorough reforms could help. The workers just ridiculed the posters of the German government in Berlin which had semi-nationalized potash and coal production and proclaimed: that is socialism! But little time was left, acts of destruction and revolt threatened at many places.

I urged Parliament to act quickly, to form the control councils of workers and peasants at once, to make a law about full socialization and put it before the public in bold outlines; seeing new things to come, workers would follow their leaders and refrain from a third revolution. The law was passed, but its publication was in bits and pieces only. I was allowed to get on with the setting up of the central planning office.

As heads of departments, I appointed the following: Eugen Umrath (organization, raw materials, and power), Professor Karl Ballod (measurement in kind), the statistical office would cooperate under its director Zahn, Hermann Kranold (production), Wolfgang Schumann (press and publicity), and some others for monetary affairs, scientific management, etc.

The first steps to be taken were to form economic associations, to organize the banks for their important tasks of compensation and socialization, to create councils and organizations of experts. Working hours for women and handicapped ex-servicemen, exchange between town and country, were under consideration.

At this time a sharp battle was going on in the press. One man especially, Marut (the letters of whose name could also be made into Traum, the German word for dream; this led him to adopt the pen-name Traven

later)[9] attacked the sensational distortion of news (by anti-socialists); many socialists were annoyed – the non-socialist press is so much stronger in many ways. We did not want to re-introduce censorship. But we wanted to try to make the contents of newspapers as independent as possible of the sources of income. We called a press commission, composed of representatives of the press, editors, publishers, draughtsmen, printers, etc. to work out proposals. Mutual offers of space in the papers of different parties was suggested. Further press reports that a general suppression of bourgeois papers was being prepared had no foundation whatever. Nothing had been said that could even have been misinterpreted in this way.

Simon had asked Rathenau to come to Munich to give his expert opinion as an experienced organizer and planner. His own plan was still based on profit and his proposal of guilds. Still, he declared that our program could be carried out organizationally. The main difficulties he foresaw were political, and also financial, should Bavaria have to proceed on its own.

The problem of credit and raw materials was the subject of a conversation we had with the members of a British commission who belonged to the circle around Lloyd George. They declared with a certainty which astonished us that England would not mind offering credit and raw materials to a planned socialist society. "We are only against bolshevism." "What do you mean by 'bolshevism'," I asked. "When there is shooting and robbing and chaos, that is bolshevism."

On April 2nd there were meetings of industrialists, who agreed to the formation of certain committees; and a meeting of the socialising commission, which also passed further measures in accord with our goals, although Christian Democrats and Bavarian People's Party members seemed to be lukewarm.

Then something happened which turned everything upside down. The workers in Augsburg went on strike in sympathy with the victims of street fighting in Stuttgart. During a meeting under the well-balanced Niekisch, there were tumultuous scenes, and the Soviet Republic was proclaimed. A deputation was sent to Munich: what will you do? A meeting was called in the War Ministry. I refused to attend in my capacity as civil servant; but when I was urged to come because matters of planning would also be decided, I joined at midnight. Niekisch was in the chair, sur-

rounded by Social Democrats and Independent Socialists; a second group was formed by the Minister of War and his followers; a third by Mühsam and Landauer; a fourth by the communists under the Russian Leviné. Hoffmann was absent as he had gone to Berlin and other ministers of the legal government did not oppose the new schemes. Niekisch and his friends saw how little the masses were prepared for soviet government, yet feared leaving affairs to the communists. After having ensured the cooperation of the Peasants' Association, it was decided to postpone the decision for two days while preparing the public through intense propaganda. And on April 7th the soviet system was quietly proclaimed. It was led by socialists and the Landauer group.

The first shock for the Bavarian Soviet Republic was that Northern Bavaria did not join. The inner organization suffered from denunciations; Niekisch soon left and his place was taken by a young enthusiastic student, Toller. Landauer and Marut introduced censorship after all, against the wishes of my central planning office. An accusation against me later by the State Attorney had to be withdrawn (in this respect).

What should we in the central planning office do? I considered socialization as a social service, independent of the political constitution. I was uncertain whether the soviet government would survive for a week, but was sure that socialization would survive. I declared my political neutrality to the Central Council and my intention of carrying on the work. Further decrees were issued, all the more important now that a feeling of order was so much needed.

The banks faced the greatest difficulties. On April 5 and 6 hundreds and hundreds of credit accounts were withdrawn; soon there would be no cash left. The Central Council closed the banks. People stood menacingly before the doors. We had already drawn up a law that payments of 5000 marks or more must be made by check. A decree to this effect was issued at once. The organization of bank employees found these measures insufficient and suggested that weekly withdrawals in cash be reduced to 700 marks and that official signatures be required in special cases, as for wages. A confiscation of bank accounts was never considered. In the trial against me several bank directors claimed I had caused damage, but only one admitted that the measures had been absolutely necessary, that without them the banks would have collapsed.

[In connection with this Eugen Umrath wrote to M.N.:
By 9th November 1918, I had already issued a decree in Chemnitz which would have prevented the collapse of money circulation in this important industrial district. I asked for a certificate from the director of the National Bank and the chairman of the association of banks in Chemnitz to the effect that this 'interference in the sphere of private property' had been beneficial. I took this certificate with me when I returned to Munich in July 1919 to serve as a witness in the trial against Neurath. A bank director serving as expert witness for the prosecution declared this interference illegal. When I presented my document and gave my view in a speech, the bank director withdrew his statement.]

Shop foremen were swayed by politics. It seemed essential to link them to trade unions for common economic measures. Together they could handle vital matters. A general wage system embracing everybody from unskilled workers to directors was to be worked out. It is contrary to socialist principles if wages are higher for workers simply because they are employed by more profitable establishments. In socialism, those who have harder work to do should work shorter hours for higher wages. With growing socialization more and more salaries would have to be adapted to the general scheme including those of employees, civil servants, teachers, etc. As long as the open market was still functioning, a general fund would have to be created for compensation, and the more profitable industries would thus support less profitable, but essential ones. A first step in this direction had been made by the metal industry.

It was not less important to win over experts for planning in the administration of production. My view was that even after training, shop foremen would not be able to judge the financial administration of a shop. But they could appoint bookkeeping experts to examine it for them. I would encourage the shop foremen by telling them that professors of the Technical University were willing to cooperate. These professors had offered their assistance under Hoffmann's government. During later political developments they disapproved strongly of political interference in their university affairs; although I had no influence in these matters, they, in the end, confirmed their offer (without political obligations). If the economic or any other administration is not considered politically neutral, a government will get as experts not the most suitable but rather those who are prepared to risk prosecution and death.

On April 13th troops of the Hoffmann government entered Munich in an attempt to regain power. I was arrested along with others, but was immediately released by the chief of police of the Hoffmann government.

The attempt failed, and on April 14th the Communists took over. Leviné and Axelrod applied Russian experiences to the German situation. They had badly suffered in Czarist times; they wanted to shed blood between 'proletariat' and 'bourgeoisie'. They wanted to remove me, but the workers were on my side. I called the representatives of all economic offices to survey the situation for a preliminary report to the new Workers' Control Council.

This second Soviet Republic estranged all intellectuals who had given their support to the first. All policemen were dismissed and replaced by communists. Church bells were rung at night and shots were fired to intimidate the public. Several thousand shop foremen were called to make quick decisions. Workers were made to strike against nobody; marching in the streets was thought to give them a feeling of power. It is difficult to judge such measures; there are too few examples for comparison. The Munich workers disapproved of confiscation. When Axelrod, the financial commissar, demanded expropriation of all credit accounts, Maenner, the people's appointed representative for finance declared: "That is political theft; I refuse to cooperate." The workers made an end to Leviné's government on April 27th.

A time of chaos and bloodshed followed. Hostages were killed as were men who had done recruiting for the Parliamentarian forces. Landauer was put to death in prison. There followed the court-martials against the leaders of the Soviet Republic. Penalties were heavy. Erich Mühsam's was 15 years in the fortress, Leviné's was death. In the middle of May, Kranold and I were arrested. Kranold, who had been my deputy, was soon released without trial; I was convicted of the crime of assisting high treason – and though I had not intended support of the Soviet Republic I should have known that my behavior did in fact give such support. I was to be detained in a fortress for one and one half years; the Central Planning Office was dissolved; the rules for the planning of production survived only on paper.

It may look as if full socialization in Bavaria – which had no time or opportunity to prove itself and therefore cannot be said to have collapsed – had fallen, a victim of accident. But if we assume a higher historical standpoint we must notice that for various reasons other movements for socialization have come to an end as well. Otto Bauer who had outlined a comprehensive plan in Austria was removed, with some political argu-

ments; Wissel and Moellendorff were removed in Germany, without any political arguments. This seems to point to more general reasons.

What next? I think we need not give up hope that all those in opposition to capitalism could join forces to replace a capitalist order by a socialist planned economy, in a peaceful manner, without submitting to compromise. I still believe that we could introduce socialism in the near future if we definitely want it. Those who say this are being sharply attacked, even hated by many; this has to be suffered, but we should not react with counter-hatred and emotional distortion. Only by remaining dispassionate ourselves can we demand objectivity from our opponents, only then can we hope that the future will be led in without bitter fight. Socialism will come anyhow; may it come, not with hatred, but with love. [Written in 1920 – Ed.].

9. MUNICH 1919 AND LATER

From Ernst Niekisch, *Gewagtes Leben* ('Daring Life – Contact and Events') Kiepenheuer & Witsch, 1958 (with permission).

Neurath's vitality was irresistible. He went to see anyone who might be helpful in his projects. When he was invited to give a report to the Cabinet and plead for his plan, he ruled the show entirely. He fought for every clause and begged unrelentingly until he had won every point. Then he started to work with the same vigor with which he had prepared it.

The liberal Professor of Economics in Munich, Lujo Brentano, had characterized him as an 'ancient-Egyptian romantic economist', but Walther Rathenau had declared his full support of the planning idea, as the idea of the future: Munich could do a great service to Germany, indeed to Europe, for nowhere else had such a promising start been made. Rathenau said he would be willing to cooperate and wished to be kept informed.

It was because Neurath tried to carry on his project during the time of the 'Soviet Republic' that he was prosecuted for treason. I was the main witness in his trial. I said that the Central Planning Office had been a legal institution. Neurath had continued his work as should any official. It was wrong to take him to court. It was wrong to link his work with the 'Soviet

Republic'; the only reason for doing so was purely emotional, because the Bavarian middle class considered it revolutionary.

I saw Neurath again in 1926 at the GESOLEI (an exhibition for health, social insurance, gymnastics). I had arranged a pavilion for the Union of Textile Workers and Neurath had set up another for the Municipality of Vienna. I employed a pupil of Kaethe Kollwitz for paintings and sculptures which Neurath criticized. "The time of ornaments," he said, "is over." "What about your beard?" I asked. He looked startled before he admitted that I was right. But pressing his beard together under his chin he continued: "But look here, what a poor face will appear when the beard is gone."

I saw him for the last time in Moscow in 1932. He introduced there his method of showing statistics with the help of little symbols. To my amazement he was shaved, and with a twinkle in his eye he said: "You have achieved this, do you like me better this way?"[10]

10. From Otto Neurath's son, the sociologist Paul Neurath

My father's first wife, Anna, died a short time after my birth in 1911, in fact as a consequence of that birth. About a year later he re-married, this time Olga Hahn. Olga was already blind when he married her, but she still had her eyesight when they first met. Since I never knew Anna, so that there was only Olga, I always called Olga 'mother'. The idea that Olga was my 'step-mother' somehow never entered my mind, and when other people made a point of it, I resented both the designation and also the need to make a point of the fact that she was not my 'real' mother. To me, she was 'real' enough.

Olga once told me how they first met. Olga was, I believe, vacationing with her family on the Semmering, a fashionable resort where her family owned a villa. One day, she told me, a friend of the family, a professor at the Gymnasium in Döbling (a district of Vienna) turned up with two of his students with whom he was on an outing. They all, boys and professor, looked rather wild and neglected, and it took a while to get them all in civilized shape. If memory serves right, they must at that time (1898 or 1899) have been about 16 or 17 years old (Olga was half a year older than Otto).

When Olga was about 22 she lost her eyesight. Otto lived at that time in Berlin, where he was studying. He came back one day and found her blind, and the situation to be described already more or less established. At any rate, so Dora Lucka (one of a group of students at the University of Vienna who knew each other well, and who studied mathematics as Olga did before her blindness) told me about 30 years later; there had always been a circle of young people moving in and out of the Hahn house where there were three children: Olga, Louise who became a painter, and Hans who became Professor of Mathematics. When Olga became blind most of these young people withdrew. Otto Neurath stormed into this situation and berated the rest of them how horrible it was to suddenly let the girl down, and in addition how ungrateful it was of them, since in good days they had enjoyed so well the rich hospitality of the Hahn family. And by sheer force of his own personality he forced the whole circle back again, and Olga's isolation was broken.[11]

Otto married Anna in 1907; he had known her while he studied for his doctorate. Olga and Anna knew each other. I recall seeing photographs of Otto with both Anna and Olga.

Otto married Olga when I was about one year old. Olga, being blind, could hardly be burdened with a baby about the house. I was sent to a Protestant children's home in Gallneukirchen in Upper-Austria. There in Gallneukirchen is located the central training institution for deaconesses, and attached to it, for training purposes, were several institutions including some for children from earliest age to 10 years, but also an old age home. It so happened that my father's mother, Gertrud Neurath, widow of his father Wilhelm Neurath (Professor of Economics in Vienna, first at the Technische Hochschule, then at the Hochschule für Bodenkultur), lived there in the old age home. For that reason, I was sent there. Grandmother died in 1914. I stayed on in that children's home; for when the First World War broke out that year in August I was at a reasonably safe place, with food and care as sure as could be had. After the war came my father's period in Munich, and after Munich came a period during which my parents did not have an apartment large enough to really live there as a family. Until an apartment was found, large enough to house the family and the library of 20000 volumes, it had become spring of 1921. At that time I was brought from Gallneukirchen to Vienna, and only then did I meet my parents for the first time – with one exception; it was in 1917,

I believe, that my father, a military officer, passed through Linz, capital of Upper-Austria. For that occasion I was taken the ten miles to the Linz railway station, and there on the platform in front of the dining room, I saw my father the first and only time in my life before joining him in 1921 at the age of nine and a half years.

We lived together only for 13 years. In the spring of 1934 came the February crisis and Dollfuss, and we parted again. It so happened that, at the time of the civil war in Austria, my father was in Moscow on one of those trips that were connected with his contract of working for the Russian State Publishing House on the introduction of pictorial statistics there (about which Marie Neurath of course knows more). In Vienna the police were looking for him; they had indeed been several times at the house trying to arrest him, hence he could be of help to exactly nobody. Thus he finally organized from Prague the transfer of his Institute and his own belongings and family to the Hague. My mother travelled to Prague to discuss details with him. After she came back, I also travelled to Prague to discuss future plans with him. I had already decided at that time not to join my parents in Holland but to stay on in Vienna. I still had a few semesters to go towards my doctorate and wanted to finish it. We all, my parents and I, agreed on this. My mother left for Holland later that spring. That same summer of 1934 I visited my parents in Holland for about a week. After that I saw my father only once more, in summer of 1937 after Olga's death. I stayed with him then for a few days, probably in early August.

It is difficult to find things in my memory that have the character of 'anecdotes'. I had better begin with some impressions.

When I came to Vienna, March 30, 1921, my parents had just moved into their new apartment in the fifth district, Margarethen, in the street called Schlossgasse (Castle street). The building was nearly 300 years old, a wide-ranging low structure (ground and first floor) that, so history tells us, was once a 'castle', meaning a nobleman's living place. In the courtyard there were still a few mulberry trees from the period when Empress Maria Theresa had ordered the growing of such trees in support of the silk industry. However, by the 20th century what once had been a 'castle' had become a dark and dingy slum. To reach the narrow winding staircase to our upper floor flat one had to pass through a very dark hallway which was cobblestoned – it was all very romantic, very 'medieval' and primi-

tive but.... My father was quite for the romantic, but at the same time always wanted to make sure that the romantic should not be abused to glorify and preserve a miserable condition that could be improved. In one of his lectures he talked about the introduction of electricity in all workers' homes and in many peasant huts, and he mentioned in passing the rantings of reactionaries against it using, amongst others, the argument that the oil lamp gives 'a homely shine' that makes the home a real home. He added: "the oil lamp is homely all right, but it stinks". So did the romantic house: it stank. There were old-fashioned kinds of toilets. In fact my father had the first WC built into that house, but that was still some years coming. There was no running water in the apartment, and the only tap was outside on the stairlanding.[12] There was no kitchen. We had a three-burner gas plate, set up on a little chest in a corner of a dark room; then there was a so-called 'cooking-box', the like of which I have not seen since: a wooden box with two holes for two special pots that fitted in them, surrounded with heavy insulating material. Food would be brought to a first boil (e.g. rice) and then placed in this box, the lids closed, and the preserved heat would finish the cooking. This was not only cheap; it was particularly practical for my mother in her blindness.

The place was enormous. It consisted essentially of five big rooms which my father transformed into six and a corridor, with the help of book shelves and partitions. He needed practically all of it, because of his large library, a good deal of which was inherited from his father.

When I arrived the first impression was this giant of a man: 6 ft 2 in. tall, an enormous red full beard, an equally enormous bald head, dark piercing eyes, in a white working coat, fairly dirty with dust and saw dust, working away at building shelves for the library. I was taken to the house by a deaconess from Gallneukirchen, about four in the afternoon. He took us into the room that was the library, where most of the shelves already stood, with books on them (he had moved into the place I believe in November or early December 1920), introduced us to Olga – and from that moment I only remember that strange room and no more deaconess.

I do not know about the beginning of the building of the shelves. But from the time when I arrived onward he built everything himself; there were no workmen. In retrospect it is quite clear that he had no money; he built the whole library of un-planed and fairly green board, the cheapest

material there could be. He stained the boards himself in a rather dark brown stain; this left additional marks on the 'white' coat. At first I was rather frightened at this giant.

The house had a strange shape; it had an angle, so that two of the eight windows of the apartment faced directly upon one street, while the other six, on the same wall of the house, faced another street at a slight angle to the first. But inside the apartment this angle happened not to fall between rooms, but inside a room – and that room was the library. That produced one of the oddest-shaped rooms anyone could imagine and gave the room a strangeness well beyond all that it would have had without this curious geometric constellation. I can't imagine anybody ever forgetting that room. Over the entrance door was a huge yellowish horse skull. My uncle Willy, Otto's brother, had brought it with him from a position that he had held before 1914 in Asia Minor as director of some possessions of the then Khedive (king) of Egypt; he had found it in some desert. With its hollow eyes it absolutely dominated the scene. The room had one of the strangest subdivisions: in front of its two windows my father had a sort of array of three desks, a huge working area, making a kind of bend that counteracted the bend of the wall of the house in that part. He had the window on his left when sitting at the final desk, but at his back when sitting at one of the others; under and between the windows were chests filled with books, folders, clippings, excerpts; and along the row of desks ran a sort of gallery of shelves, just high enough that anybody sitting outside in the room could not see across it while anybody standing would see across. Thus he had his completely isolated working sphere within the big room; he could have guests in the room without having to do any straightening out of his desks.

Out from one of the cupboards with glass doors came a huge metal rod 1 to $1\frac{1}{2}$ ft long; on it hung a little array of strange figures and a tray, also with strange figures, I don't recall all of them, but I hardly ever saw a stranger collection. One was a dove, made of wood, such as I am told Russian prisoners of war made during the first world war, with wings that consisted of many pieces so that they were actually stylised feathers. Then there was a snake, such as children have to play with, made of segments so that, if well handled, it looks rather real and wriggles. My father was a master at that wriggling game; when he did it the first time, when I just came, it looked so real that I screamed in fear. But even after I had already

played with it myself and understood how it worked and even had learned to wriggle it myself, I still sometimes got frightened when he did it. On that assembly there was a little monkey, perhaps two inches tall, made of clay, but the neck and the joints to the feet were made of springs of very thin metal, and when only slightly touched, the whole animal would tremble up and down for a long, long time. There were many other things of this kind.

In its strangeness and darkness (across a not-very-wide street stood a court-house and prison, about 5 stories tall) the whole room looked like Faust's studio. In one corner – and the corner again was no corner but some odd-shaped angle, made even more odd by the bookshelves that bridged it – there was a small dark chest, a real museum piece, as I learned later: it had only one brother, and that stood in the Landes-museum in Graz. On its top stood a Chinese figure in red and white marble. I once referred to this as "that Chinese idol". My father then said: "why do you call this an idol? It is somebody else's God." I never forgot it – I was probably ten or eleven years old; but I think I never used that word 'idol' again when talking about religious subjects. This stayed with me immediately, although my father did not enter into any further explanation.

To the left and right of this God stood two green Chinese porcelain lions, and in front of the chest a flat bronze head, probably a rather modern European piece. There was a large old clock, from perhaps the middle of the 17th century, with many different side-dials; it was the centerpiece of one wall. Built into the shelves was a special niche for Olga and her smoking things. In another corner that was no corner and was also bridged by shelves, there was the old tile stove. Later we had in front of it a more modern iron stove. Then came a wall that recurs in descriptions given by friends too: there was what must have been one of the largest bed-couch arrangements ever built. It was wide enough that it served as the bed for my parents, long enough to give ample room for this tall man, and so big that when there were guests, a whole crowd used to sit there. Above it hung as the centerpiece of the library (opposite the horse skull), a very large Chinese Gobelin, about 300 years old; I do not know where it came from. It shows some mythical scene, with several three-fourths-life-size figures on a dark blue silk background. However, this did not hang on a building wall. It was mounted into an artificial

wall that produced a semblance of a 90 degree angle with the wall previously described, and left behind it a long thin triangular room; in its narrow end it was just empty, while the wider end, behind a curtain, was a sort of alcove with a washstand. The result of this was that the Gobelin, fixed in a wooden frame, would billow and swing back and forth every time somebody sat down or got up from the couch.

I remember Carnap, Felix Kaufmann, Otto Neurath more or less lying on that couch, with a few others sitting in part at the lower end and in part in front of them, and big discussions going on – and when there was something to eat, usually sandwiches, tea, cookies, the whole scene took on the look of a Platonic Symposium.

Another recollection of that big couch: when I was still a boy my father and I would get into a sort of wrestling game. He would be lying on the couch, I would be sitting on a stool or on the floor and wrestle with his left arm; he held it up at the elbow and I tried to bend it down. This could go on for quite a while, but usually it ended in this manner; there suddenly was one lightning fast move, then I would be lying on the floor, his full weight would sit for a brief moment on top of me, a laughing face would be saying: "So!", and with that the battle was over. I never understood how he managed it, the speed of it was something incredible.

My father took me along on the May Day Parade in 1921 or 1922. In those days there were no loudspeakers, and the endless masses that filled the space between the New Town Hall and the Burgtheater for the most part could not possibly understand what their leaders said. At one point my father lifted me up above the crowd and said: see that man up there on the steps of the Town Hall speaking. You can't hear him but always remember: this is Jakob Reumann, the first Labor Mayor of Vienna. I never forgot.

It was perhaps October 1923 when some incident at school was, in my eyes, so full of the injustice of the world and this city of Vienna (remember that I was in fact a country boy, having been in Vienna only two years by then) that I decided to leave this den of iniquity and hie myself to a better place where there was justice, kindness and sense. I ran away from home and decided to go to live with my uncle Willy and become a peasant. About Uncle Willy whom I had never met, I knew that he operated a large fruit farm in Styria outside Graz and that he lived 'in Graz'. I knew this was the capital of Styria and on the Southern Railroad. All there was

to do was to walk along the Southern Railroad. Eventually there would be Graz, and no matter when, I would last it out. (The distance is roughly 125 miles.) When I reached Perchtoldsdorf it began getting to be evening and I figured I better find a place to spend the night. I finally decided that the best place would be the graveyard, because grown-ups are cowards and afraid of graveyards, hence nobody would come and look for me all night long. I was right. Nobody came. But this graveyard was next to the church on top of a hill, and about four or five in the morning it got bitterly cold. I had to find a place that was protected against the wind. So I climbed back over the wall and down into the town and found what I needed: a stone bench set into the front of a house, and I fell sound asleep again. I woke from a humming noise: a crowd had gathered, a policeman was called who took me to the next police station. The officer rang our district police station in Vienna; there was already my parents' report that I was missing; everything was fine. One of the policemen took me home to his wife where I had a good sleep on an old-fashioned sofa under a feather bed quilt. Then I was taken back to the station to wait for my father. He came towards noon, took me over very quietly, and we got into the train. He pulled out his newspaper and read it; nothing happened. Back to mother – nothing happened. Next day back to school; the form master (whom I liked) only said to me: "well, and about your little excursion yesterday we shall make no further inquiries" – no doubt in agreement with my father. And that was the end of it.

In Gymnasium I did an enormous amount of class cutting. I should have brought an excuse slip, signed by my father, for every hour missed. My father was absent from Vienna quite often, lecturing etc., I always promised the headmaster of the class that some day I would bring all those slips together. This had to be before the day the teachers had a final conference. I waited until that very day. I prepared a fistful of slips with various excuses, took a taxi to the restaurant where I knew my father would have lunch with his staff, hopped breathlessly into the conversation, shoved that fistful of slips before my father, said that conference was taking place in an hour, please hurry hurry. My father gave a big understanding smile and said: tell me, are there at least some genuine ones among them? Yes, I said, some are genuine. Now well... and while speaking he rapidly signed one after another, I hopped into my taxi, he waved a smiling goodbye, and never uttered a word about the incident.

A year later I repeated the performance with a little less dramatics, no taxi, no breathless storming into his luncheon, and the reaction was pretty much the same: understanding, forgiving and leaving well alone. I had to know how to run my life.

My father had the habit of reading a newspaper while walking in the street. I have taken over that habit. There was a day when I was grateful that he had it. I was cutting class and went for a walk. I walked through one of the side entrances of the New Town Hall, from where one passes through several additional gates, across the courtyard, and out the opposite side entrance. In one of those passages with literally no room to escape or to step aside I practically brushed against my father; he walked along reading a newspaper. All I needed was enough presence of mind to keep on moving as part of the passing scene, and he did not notice a thing.

One day we had guests. I myself had a date with my girl friend and waited for some suitable moment to leave. My father asked me where I was going. There was no particular reason to hide it from him, he knew the girl and liked her, but I did not want to tell about it across a room with guests, I stammered something or other, probably blushing, and my father obviously guessed what was up and said cheerfully: Paul, let me give you a good piece of advice for the future: if you have a date with a beautiful woman and don't want anybody to know, then, if asked, say loudly and cheerfully: I have a date with a beautiful woman – nobody is going to believe you.

Ann Brenner, Secretary of the *Survey Graphic*, once told me how she met him first. She was on a trip to Europe searching for somebody to help in presenting social and welfare problems graphically. On her list was the director of the German Museum in Munich. He told her that not he, but only Otto Neurath in Vienna could do that. So she took a train to see Otto, without any previous arrangement. When she explained what she wanted in general terms, he became, so she claimed, ironic and condescending: ah, so you are one of those busybodies who are doing good in welfare. Now listen my dear lady: the only serious welfare magazine in America that we know of and would consider worth working with is the *Survey Graphic* in New York. So began one of his lasting friendships and the fruitful cooperation with the *Survey Graphic*.

After one of the more important lectures my father gave (I think it was 'Unity of Science and Psychology' and took place in the Mathematical

Institute) a discussion followed. Otto Neurath got into a crossfire of questions, to one of which he said: "yes of course", then took a moment's breath and said: "ah no no, out of the question", and after another breath said: "well, I don't know exactly". I have forgotten what the question was, but not the laughter in the room. From the same discussion I remember another incident that involved Philipp Frank. Karl Bühler stood at the lectern and got quite hot in the discussion, then Otto said something to him from the audience, and Bühler said cuttingly: "one cannot say that without any further ado." And stepped down. But Philipp Frank was already standing at the lectern and said to the retreating Bühler: "well, and what about '*with* further ado'?"[13]

Some recollections show my father as a stern critic. One of them appears to me in retrospect to have been a rather decisive moment in my life. It was about 1932; I was at that time involved in propaganda against the Nazis, and I knew more about Nazi literature than my Nazi colleagues at school and university. When I had carefully read through Gottfried Feder's *Manifesto*, I went to my father and began a conversation that what that fellow preached was all "inflation, pure and simple." My father looked at me slightly quizzically, with a mixture of fatherly and teacherly condescension and at the same time some irritation, and said: "What do you know about inflation to be able to voice that criticism?" I immediately spouted whatever I knew; that irritated him even more. After one or two more questions that made short shrift of what I had to say, he got up, walked about the rooms and came back with an armful of books, mentioning a few chapters in particular: "Right now you are just babbling; when you have read this stuff come back and talk to me about inflation." I went back and did some reading. The reading grew: This was an experience that started me on a working habit that never left me. I think I never did go back and talk about inflation. But a few years later, at one of the examinations for the doctorate in law, the examiner in economics asked me about inflation, and the more I answered the more he asked, obviously delighted. That day I could only think back gratefully to that earlier day in 1932.

When my parents went to Holland in 1934 they left it entirely to me whether I wanted to go with them or stay in Vienna, but they led me to understand that most likely they would not be able to support me with money from Holland. I stayed in Vienna, living for a few months on a

small amount of money I had inherited and continued my studies at the university. Then for a year I had a full-time job as a business employee. I could see that I had lost a year toward my doctorate. However, I was broke, and if I quit on my own, no unemployment relief. Before deciding to quit, I asked a few friends and also my parents what they thought of this. Back came a letter from Otto. I remember only one sentence "Beggars make poor counsellors." It cut me rather deeply, but at the same time I could not help admiring him for putting it so bluntly; he was realistic enough to know that he could not give any advice, and also realistic enough not to give me any 'babbling' instead.

My father did not want me to become a sociologist. He did not think that this was a 'field' with a 'subject matter' and with reasonable prospect for developing along any foreseeable kind of a career. We discussed this at several stations in my life, particularly when I visited him in Holland after Olga's death in 1937. Still, when I came to America in 1941, I immediately began work on a second doctorate in sociology and statistics and wrote him so. He was still against it with the same old arguments. But at one point a strange note crept into the correspondence. In the midst of a long letter in which he uttered again his concern about this strange desire on my part to study sociology he wrote: "There is a story about old Gurlitt, the painter. He was dying and all his children were around him, all successful men, and he said: 'I thank you and I am glad that you have been good boys and successful; a pity that none of you became a painter'. And all the sons answered: 'Father, you said to us you would put us out of the house if we did try to become painters'. 'Very well, but if one of you had been a real painter, he would have risked it, whatever happened'."

In the same letter of January 1943 I find something else worth quoting, because the point usually is not quite clear: "In the historical and analytical papers on *war economy* ('*Kriegswirtschaft*') I started with the scientific analysis of this social structure (see *Handwörterbuch der Staatswissenschaften*[14]), and I invented the name." I had vaguely known this for many years, but here it came out accidentally as a side point in the course of a discussion about something else.

In one of the last letters I had from my father he wrote: "My dear Paul, this is only to tell you that we are thinking of you and your fate when reading the reports on Buchenwald. You have been in this hell and you

could go away. Even thinking back presses one's throat.... Reading Samuel Smiles whom I read in my youth, too, I think of you and your successful energy, and I am only sorry that I cannot say that I, anticipating your work, did much for this evolution, and therefore you are your own blacksmith. SELFHELP. That will fit into my file of SELFHELP people. I should have preferred to file you into a file of people much supported by the father... but perhaps I was able to transfer something of the tradition which exists in our family...."

At this point in the correspondence he referred to the fact that I was the third generation that had become social scientist against the wish of their parents. His father had to run away from home as a young boy to Vienna in order to study and eventually become a professor; he himself had to do his university studies against the will of his mother who knew the kind of life that lay before him, as wife and then widow of a university professor; she also had, after my grandfather's death, prepared the last edition of my grandfather's treatise on economics. And here I had to do it against the will of my father.

It would be unfair to Olga were I not to state even in this context, where I am supposed to talk about my father, that she was probably the strongest intellectual influence upon me during my formative years; had she not been, I would probably not have developed the way I did. But inasmuch as Olga was there, and I therefore had at least the necessary intellectual breathing space in which to develop, and the necessary daily contact with a first rate mind, that criticized and discussed and corrected and was interested, certainly the second greatest influence for my intellectual development was my father, even though he himself ordinarily did not specially try to influence me one way or another. It happened by breathing the same air with him.

It was also a matter of 'tradition in the family'. First of all, we are a family of people who wrote. Second: even though my father was ordinarily not much devoted to traditions, there were in his library two oil paintings of two great-grandfathers of his[15], painted around 1820. He explained to me fairly early who they were; one was a King's Counsel, the other chief administrator of the estates of Count Hardenberg, Prussian Prime Minister in the Napoleonic era. These two 'grandfathers' as we called them came up in conversation in the sense of there being a family tradition of intellectual activity and higher service that went back for at least one and

a half centuries. This he did not want me to forget. I have these two oil paintings now above my desk in New York. They and the Chinese gobelin and a few smaller keepsakes are all that I have left from pre-war days of my father's possessions, and Marie Neurath of course has even less than that; in fact everyone of these pieces I now have, I have gotten from her. The three pictures and one or two smaller pieces were bought by friends of my parents at the Hague when the contents of the house were sold at an auction by the Nazis. These friends asked themselves: which pieces would mean most to Otto Neurath. It would seem that they knew how strong, in spite of all his looking towards the future, was his full awareness of the past, of a strong tradition in the family that went back for generations.

11. HEINZ UMRATH

[Housing expert for Dutch Building Trade Unions and son of Otto's friend Eugen Umrath who left his job at the AEG (General Electricity Society) to help in the planning in Munich.]

I met Neurath in the twenties in Vienna, and I saw him frequently in Holland after 1936. The change was profound: from sharp intellectualism to searching humanism; how much Communism and National Socialism had affected him. Of the two periods I recall clearly two conversations, very characteristic of him, and of lasting effect on me.

What he said to me in 1924 was like an ice-cold shower, and probably intentional, for I was a young enthusiastic 'believer' obviously needing some cooling-off. I talked of our 'socialist future'. This was too metaphysical for Neurath. "Look here, socialism is somewhat like what we experienced in our holidays. We went swimming and sunbathing, alternately, for a whole day. Afterwards we were terribly sunburnt. In bed, lying on my right side, I couldn't bear the pain. I knew it would be exactly the same on the other side. But I just had to turn over. And back again, all the time. It is the same with socialism. Today we are lying on one side and can't bear it and so we turn over to the other."

Ten years later all our conversations were about the ONE problem which nobody has pinpointed as clearly as he: *Planning will come anyhow, but what about man?* Whether he told about his experiences in Moscow, about Hitler, about the Albigenses, or about the threatening war: the

question remained, what about man? That is what matters – not whether the ideals which a society proclaims are 'higher', but whether human life under that system is happier. In this mood he drew up his plan for a book 'Persecution and Toleration' – or, as he latter called it, 'Persecution and Brotherhood' – in which he wanted to show that toleration in the long run is more successful. Neurath revolted against wrongs. He believed that visualization of hundreds of minor things would contribute to the humanization of this world – for him there was only one step from 'visual education' to 'education for vision'.

He knew that the man in the street is the most important personality of our time; he had no illusions about him – "inter cloacas et urinas nascimur" was a quotation he often used – still, the happiness of the man in the street was his main concern. He was a sceptical utopian, but he believed in the possibility of mobilizing the good in human nature and in society.

How seriously he took all this, I saw even in 1924. Neurath was at that time General Secretary of a housing co-operative.[16] He took me to a meeting, attended by about 40 owners of garden plots, who were told by him and the Councillor for Housing that it would be wise not to plant anything which would not bear fruit in 2 or 3 years; after that the ground would be needed for housing. A general outcry of indignation was raised over their lovingly worked land. Patiently the two men tried the whole evening to explain that the housing program was more important; that nothing could be done if small groups stood in the way. There was great excitement in the small room, but this was a living lecture in democracy. No bosses gave their orders which the little men had to accept since it was declared necessary. Instead there was an effort to create confidence and understanding. Maybe Vienna of the twenties experienced one of the happiest episodes of Western Socialism.

More than once Neurath had to start afresh after losing everything. He needed all his energy to find new ground under his feet (which was, often, narrow enough.) But he knew how to use his chances well. Occasionally the difficulties seemed insuperable. But much had to happen before he gave in. One of his collaborators gave me a beautiful illustration of this. We were sitting together in the Hague in 1940. Otto and Marie had fled and we did not know what had happened to them. Neighbors had seen them leave their house and had feared the worst. When we considered the

chances of a flight, this collaborator said: don't worry about Neurath, he always finds a way. I shall never forget what happened years ago in Linz. We had made large charts for an exhibition there. One was so large that it could not be taken in through any door or window. I did not know what to do. Three hours before the opening Neurath arrived – the monster chart still outside. Neurath said, well, we shall break through the wall– and break through the wall they did.

His signature – the elephant, curtseying and offering a bunch of flowers gracefully – he has mimed more than once. But even when he made his bow to the lady of the house, his size was still considerable.

12. From Rudolf Carnap's Intellectual Autobiography[17]

I should like to describe some aspects of Neurath's activity in the Vienna Circle and his influence on my thinking. One of the important contributions he made consisted in his frequent remarks on the social and historical conditions for the development of philosophical conceptions. He shared our hopeful belief that the scientific way of thinking in philosophy would grow stronger in our era. But he emphasized that this belief was to be based not simply on the correctness of the scientific way of thinking, but rather on the historical fact (of industrialization): the general cultural atmosphere will become more favorable toward the scientific way of thinking.

I like to keep my philosophical work separated from my political aims. Neurath strongly criticized this neutralist attitude which, in his opinion, gave aid and comfort to the enemies of social progress. He, for example, reproached Hans Hahn because he was not only theoretically interested, as I was, in parapsychological investigations, but took an active part in seances in an attempt to introduce stricter scientific methods of experimentation (without success, unfortunately). Neurath pointed out that such seances served chiefly to strengthen supernaturalism.[18]

In our discussion in the Vienna Circle, chiefly under the influence of Neurath, the principle of the unity of science became one of the main tenets of our general philosophical conceptions. This principle says that the different branches of empirical science are separated only for the practical reason of division of labor, but are fundamentally merely parts

of one comprehensive unified science. For Neurath the aim of a unified science was of vital importance; he maintained the monistic conception that everything that occurs is a part of nature, i.e. of the physical world. I proposed to make this thesis more precise by transforming it into a thesis concerning language. Among the possible forms of a unified language of science Neurath gave strong preference to a physicalist language as against a phenomenalist one. (In the *Logischer Aufbau der Welt* I had indicated the possibility of taking a physicalistic basis instead of the phenomenalistic one actually used in the book.)

Neurath urged the development toward a physicalist attitude. I deliberately use 'attitude' and not 'belief' because it was a question of practical preference, not a theoretical question of truth. In the beginning, Neurath defended materialism against idealism, both understood in the sense of the German philosophical movements of the 19th century. For him the strongest motive for this position was the fact that, during the last hundred years, materialism was usually connected with progressive ideas in political and social matters, while idealism was associated with reactionary attitudes. I argued in detail that the thesis of materialism was just as much a pseudo-thesis as that of idealism. After a long struggle Neurath accepted this point. But he maintained that in the case of idealism, the meaninglessness pervaded the whole doctrine, whereas in the case of materialism it was merely peripheral and could easily be eliminated without abandoning the basic idea of materialism, which he characterized as closeness to actual life and acceptance of a scientific attitude. Neurath admitted that the philosophical arguments of materialists, e.g. Ludwig Büchner and Ernst Haeckel, were often inadequate as measured by our logical standards. On the other hand, we agreed with him that their general attitude and way of thinking was closer to sound scientific method than the thinking of German idealists like Fichte, Schelling, and Hegel. When I suggested that we should not discuss the theses of idealism and materialism but rather the problem of the choice of a language, Neurath accepted this point but tried to turn my weapon against me.

The choice of language, he argued, is a practical decision, just as the choice of a route for a railroad or that of a constitution for a government. He emphasized that all practical decisions are interconnected and should therefore be made from the point of view of a general goal. His warning against isolating the deliberation of any practical question, even that of

a choice of a language form, made a strong impression upon my own thinking and that of my friends.[19]

In my view, one of the most important advantages of the physicalist language is its intersubjectivity, i.e., the fact that the events described in this language are in principle observable by all users of the language.

In numerous private conversations I came into even closer contact with Neurath's ideas. He spiced his talks with a lot of wit and sarcasm, criticizing the views and attitudes of others, including myself and philosophers whom I appreciated highly, such as Schlick and Russell. These talks were always most lively and stimulating, and in spite of my frequent opposition I learned a great deal from them.

Neurath's views about social problems were strongly influenced by Marx. But he was not a dogmatic Marxist. For him every theory must be further developed by constant criticism and re-examination. In a series of private discussions with me and some younger members of the Circle, he explained the basic ideas of Marxism and showed their relevance to a better understanding of the sociological function of philosophy. He believed that our form of physicalism was an improved non-metaphysical and logically unobjectionable version which today should supersede both the mechanistic and dialectical forms of nineteenth century materialism.

13. Heinrich Neider

A few weeks after my admission to Schlick's advanced class (spring 1927), I was sitting in the Arcades Café at the back of the University when Carnap, just established as a lecturer at the University, was sitting at another table, with Feigl and Natkin, all of whom I had met in Schlick's class. They were in animated discussion. After a while Feigl, on Carnap's request, came to ask me to join them. The subject of discussion was simplicity as principle of selection in the selection of natural laws, as suggested by Feigl. After a while Carnap declared: we must break off, we have an appointment with Neurath. So far I had known Otto Neurath's name only from literature, mainly in connection with Max Weber. I had no idea that this Otto Neurath lived in Vienna and asked naively. "Who is Neurath?" They laughed, and, amazed, Feigl said: "You don't know Otto Neurath, the wittiest man of Vienna? You simply must come with us."

We went by taxi to a rather dilapidated house in Schlossgasse. On

worn-out steps we climbed to the first floor. Olga, Otto's blind second wife, opened the door, cordially welcoming the newcomer. She took us into a large room filled with books to the ceiling; tables and chairs, each corner and even available space on the floor, were covered with periodicals, books and manuscripts. A very beautiful, slightly damaged, Persian tapestry on a wall was the only decoration. Neurath was asleep on a couch. As soon as his wife had roused him he was at once wide awake. Carnap introduced me. Neurath's first question was: "What is your study?" I answered, philosophy. "Do you read mathematics, physics?" "No," I said, "pure philosophy." "You devote yourself to something as dirty as that? Why not straight theology?" I was somewhat shaken – just endeavoring to emerge from my metaphysical eggshell. Only a few weeks earlier Feigl had dissuaded me from moving to Berlin to study with Nicolai Hartmann.

I was shocked, but in less than an hour I had already fallen under Neurath's spell. This large, heavy, bald man was in everything the opposite of the scholarly types of philosophers and mathematicians whom I had met so far. Schlick, Carnap, Reininger were all somewhat inhibited and shy, hesitant to transgress the limits of their own narrow field in discussion, except in non-committal terms. Neurath was just the opposite. For him the rejection of metaphysics was a fight like that against a political opponent. After a few hours (the discussion lasting from 4 p.m. until after midnight) I saw clearly: Otto Neurath is primarily a man of action, or at least wishes to be one.

The university teachers I had met so far had been epistemologists and logicians. History, sociology, the history of science and mathematics, were alien to them. Neurath, on the other hand, was a man of encyclopedic knowledge – hardly any field was alien to him and he had published in many. His booskshelves were filled with works by scientists, philosophers, poets, fathers of the church. There were theological reference books and publications on current affairs.

The discussions in which he always took the lead touched on all subjects: slavery in antiquity, sociological premises of scholastic ethics in economy, Hegel and Marx, the theory of marginal utility, the task of statistics in the class struggle, money calculation and calculation in kind.

On each subject he made original statements, and each objection was met by him with quotations from a book from his shelves or from his own writings. At the center of this immense knowledge and original thinking

was a passionate man who won over more than just the young student.

Otto Neurath represented the extreme left in the Vienna Circle. Carnap was just finishing *Logischer Aufbau der Welt*. Neurath was thrilled by many aspects of this original work, especially by those parts in which Carnap declared his opposition to metaphysics. But already during the first discussions which I attended (they took place in Neurath's flat, sometimes more than once a week) there clearly appeared a difference in the judgment of Wittgenstein who, by outsiders, was believed to be the halfmythical 'patron saint' of the Vienna Circle. (I remember that even two years later, during an animated discussion at the philosophers' congress in Prague, a German participant said: "Herr Wittgenstein, should he be a real person or rather, as I believe, a synthetic figure invented by the Vienna Circle as a mouthpiece for their theses...").

Neurath was extremely sceptical of Wittgenstein's dualism of fact and statement. That a fact should be reflected in the structure of a statement was for him pure metaphysics. Never can we step outside language, never can science be anything but a system of statements – statements describing physical facts only. All other statements were for Neurath metaphysical and had to be eliminated from unified science.[20]

At the extreme right of the Vienna Circle stood Schlick. Having been a realist, only recently converted by Wittgenstein to positivism, he denied any relationship between science and social development. "Truth will prevail whatever one puts in its way", was his frequently repeated opinion. "One should allow all opinions to be expressed, even the most absurd ones. The progress of science will look after the selection."

Neurath was furious when I told him about this attitude. These two men were opposites not only in their thinking but also in their personalities. Schlick, the soft-spoken tall man, supposed to be of aristocratic parentage, lived in the style of the grand bourgeoisie – he used to ride on horseback before his lectures – loved to travel, gave musical parties and dinners in the style of cultured rich people of the bourgeois era; Neurath, the consciously non-bourgeois revolutionary, disregarded the petit-bourgeois forms in home and dress (mostly bare-headed, he sometimes wore a cap to show his solidarity with the working class), interested as he was in a novel way of life – note his activities during the Munich revolution and, in a more modest frame, in Vienna's housing program, and his many speeches and publications about the new style of life.

He had many emotional ties with Carnap, who came from the German Youth Movement and who lived in a small wooden bungalow. But Carnap was less radical in his rejection of bourgeois society. In his proper dress, in his spic and span home, he was Neurath's ideal partner, the one having all that which the other lacked.

In Schlick, the reaction to Neurath's style was as violent as to his theoretical views. I often tried to bring them closer but failed with Schlick even more than with Neurath. Whereas in Neurath's view, Schlick was the great scholar in spite of all theoretical disagreement, though he disliked his aristocratic ('aristocratzic') manners, for Schlick, Neurath's proletarian Bohemia was intolerable: "I cannot invite this man, I cannot bear his loud voice."

Neurath's dislikes never went so far as to prevent cooperation in fields of common aspirations. A great part of the radiance of his personality was based on his human tolerance which sometimes appeared to contradict the radicalism of his views in science, life and politics. I still remember how in later years this convinced teetotaller had hidden a bottle of whisky for me for my free use during discussions. Once I questioned him about this astonishing tolerance. "Well", he said, "in this small way I can realise something of the way of life of a kinder, new society in which differing ways of life will be allowed side by side."

I believe that Neurath, whose ability to think boldly and constructively captivated every one who knew him closely, was in his heart more of an anarchist than a collectivist. I remember a discussion in which he had violently pleaded for the predictability of social developments. When I said, "then you are absolutely sure that the next stage of social development will be collectivist?" His reply was, "What can ever be predicted with certainty? Predictions can be made only with a certain measure of probability. Don't forget, the data can change overnight. It is quite possible that a source of energy will be discovered which enables everybody to have his own energy supply. The society which would then come about would have more anarchic than collectivist traits."

His signature, the symbol of an elephant, did not only correspond to his bodily characteristics but also to his patience and the thick skin he pretended to have when he tried to carry out things which he deemed necessary, even against the opposition of his friends.

It is owing to a pronouncement by Neurath that the Vienna Circle

ever presented itself to the world and became more than a debating club; he made it in 1929 when Schlick was in America as a guest professor and was offered a professorship at Bonn University. To honor Schlick, but also to oblige him morally, the programmatic essay *Scientific Conception of the World – the Vienna Circle*[21] was produced, essentially by Neurath. Schlick was not very enthusiastic about its formulations, especially those of a political or worldview character – but a *fait accompli* had been created. The Vienna Circle was already a well-known group at the Congresses for Scientific Philosophy, Prague 1929 and Koenigsberg 1930.

After Neurath's emigration in 1934 and Hans Hahn's untimely death the same year, the Vienna Circle continued its existence in Vienna until 1936 when Schlick was murdered [by a deranged student – Ed.]. It was especially Philipp Frank, and Carnap (then at the German University of Prague) who brought in ever new subjects for discussion which went on in more or less the old form. In general, however, Waismann's and Wittgenstein's exegesis ruled the show.

14. VIKTOR KRAFT

Excerpts from *The Vienna Circle, Origin of Neo-positivism*, Vienna, Springer, 1950 (in German).

The composition of the Vienna Circle had the result that it was not dominated by uniform views as a circle of disciples would be which simply accepts the teacher's views. Its leading members were independent thinkers. There was a radical wing represented by Neurath who just through his radicalism has had a stimulating and often compelling effect and who was often joined by Hahn and Carnap, and a moderate wing to which Schlick belonged. There were various differences in detail which are partly mentioned in Schlick's 'L'école de Vienne et la philosophie traditionelle' (published 1937). (E.g. Schlick's criticism of Neurath's radicalism, and Neurath's criticism of Schlick's 'Konstatierung' in his article 'Radikaler Physikalismus und "wirkliche Welt",' 1934). Neither towards Wittgenstein's ideas nor in the theory of probability the attitude was uniform, though there was general agreement in principle....

It was one of the first endeavours of the Vienna Circle to clarify language as a function of meaning.... The meaning of a sentence is in what

is verifiable in it.... Only empirical statements have meaning.... Therefore the statements of scientific logic are bare of content.... This radical consequence from the definition of meaning had already been accepted by Wittgenstein.... But this definition of meaning by verifiability soon encountered serious criticism.... In the Vienna Circle Neurath was the first to oppose the explanations bare of meaning (sinnleeren Erläuterungen). Against the whole definition of meaning, Popper in his 'Logic of Scientific Discovery' ('Logik der Forschung') has maintained that it is arbitrary....

Wittgenstein adopted Russell's distinction between composite and simple, 'molecular' and 'atomic' statements.... It was therefore the next and foremost task to look for atomic statements and investigate their logical form. Wittgenstein identified them with what he called 'elementary' statements which can immediately be compared with facts of observation.... On the assumption that atomic or elementary statements are records of experiences, the suggestion was put forward in the Vienna Circle to identify them with what was called 'protocol statements'. At first such protocol statements (statements of perception) were considered as being of absolute validity: "sentences which need no confirmation and form the basis for all other statements of science" (Carnap, *Erkenntnis*, **2**). Neurath denied this absolute validity (*Erkenntnis*, **3**). Even protocol statements can be declared invalid if necessary; for they are not free from elaboration, they are not more original than other empirical statements, they are as hypothetical and open to correction. Moreover, statements cannot be compared with data, with experiences, with anything extralingual, but only with other statements. This view of Neurath's was also accepted by Carnap. Protocol statements are not ranked above other statements. Carnap said (*Erkenntnis*, **3**) "there are no absolute original statements for the construction of science." It is a matter of decision, of convention, where to stop....

If protocol statements are no longer absolutely certain but open to correction, how can one decide when a protocol statement is to be dismissed, and when not? For Neurath the criterion was the harmony between empirical statements. If a protocol statement is in contradiction with the system of so far accepted statements, either the protocol statement has to be dropped or the system has to be changed so that with the addition of the new statements no contradiction remains....

At this point Schlick interfered with his essay 'On the Fundament of Knowledge' (*Erkenntnis*, **4**): for the knowledge of facts it is not sufficient that there is no contradiction in general, but that there is no contradiction with certain well defined statements. But these distinctive statements are not the protocol statements which, though forming the start of the investigations, are not the fundament of knowledge. The fundamental statements are those which finish the process of knowledge. They are observation statements which lead to verification (or falsification).... Together with the meaning of such a statement, which Schlick called "Konstatierung", the truth is understood....

Schlick's 'Konstatierung' was at once criticised in the Vienna Circle. Neurath objected to their vague character, their absolute certainty, their 'conformity to reality'. Then Popper raised serious doubts in his important book 'Logic of Scientific Discovery', 1935 (a volume in the series, edited by Schlick and Frank, 'Schriften zur wissenschaftlichen Weltauffassung'), which had a decisive influence on the thinking of the Vienna Circle.

15. KARL R. POPPER

The name Otto Neurath was known to me even before 1919 (when he was 37 and I was 17): I had come across some of his papers (written, I believe, prior to the First World War or in its early stages) in my father's library. There were, if I remember rightly, one or two papers read before the Social-pedagogical Society of Vienna, and there was at least one (I think it was on Schröder's *Algebra of Logic*) read to the Philosophical Society.

Then I heard of him, of course, during his Munich period, early in 1919, when he sent a telegram to Vienna to Josef Popper ('Lynkeus'), famous (or perhaps notorious?) for his individualism as well as for his 'half-socialism' – his insistence on an economy comprising a free-market 'private sector' and a strictly limited 'public sector' to provide for a state-guaranteed *minimum* real income to every man, woman and child.

I suppose that Neurath became acquainted with Popper-Lynkeus through Ernst Mach who had been one of Popper-Lynkeus' closest friends. Neurath's telegram to Popper-Lynkeus began with the words, "Your idea is about to be realized" ("Ihre Idee wird verwirklicht"). The

rest of the telegram ("Wir machen Vollsozialisierung") must have puzzled Josef Popper-Lynkeus for it expressed an idea quite different from his, and one that must have gone very much against his individualistic grain.

Not very long afterwards, shortly after Neurath's return from Munich to Vienna, I met him in the so-called 'Akazienhof', one of the war and post-war non-profit eating places organised in Vienna by Dr Eugenia Schwarzwald, a most remarkable woman and a humanitarian of tremendous drive and practical activity, who organised help for children, students, artists, and intellectuals in starving post-war Vienna (the Vienna of the early 1920's). The Akazienhof was a very pleasant and quiet place, where one could eat either inside or in the open, under beautiful trees, in a little side road running down the hill almost opposite to the Anatomical Institute of the University, only three or four minutes from the Mathematical and Physical Institutes; and quite a few students and teachers from these institutes went there for lunch. I was at that time studying mathematics and physics at the University (as an 'ausserordentlicher Hörer', that is, before being admitted to an ordinary degree course); and it was at the Akazienhof that I first met Hans Thirring, at about the time of his appointment to the chair of theoretical physics, and also Otto Neurath – then a big, tall, exuberant man with flashing eyes, a big red beard, and a loud voice. The impression was of a most unusual personality, of a man of tremendous vitality and drive, of a man who believed passionately in his social, political and philosophical theories, but who believed even more in himself, though very ready to laugh about himself; of a man who was immensely attractive, but who cared nothing about it; who would not look behind him or, when rushing ahead, care very much about whom his big stride might knock down.

For some months Neurath came frequently to the Akazienhof for lunch, but then I lost sight of him; I cannot remember whether it was he or I who first ceased going there. When I met Neurath next (the occasion was a political address of his, a defence of socialist ideas), he was a changed man.

Apart from the fact that he had discarded his red beard, all those things I said before might still have been said of him. But he impressed me as having greatly aged. I had the feeling that his exuberance was no longer what it had been; that it was no longer quite natural, and that his faith

in his theories had now to be supported by an effort which was essentially apologetic; that, though he did not admit it to himself, he was emotionally in a defensive mood. And I had the impression that he himself felt that he was on the defensive, and that he did not like it at all, and tried to get over this mood. I cannot recall what he said in this lecture. Yet I remember well his effort to give us something more positive than mere indictments of the fascists, and a defence of his own position; and I remember that he ended with some kind of encouraging battle-cry, though I have forgotten what it was; but it was, in mood and atmosphere, similar to that battle-cry with which later he concluded an address at the First International Congress for Scientific Philosophy (Paris, 1935): 'Vivent les nouveaux encyclopédistes!'

It is, I think, interesting to speculate what had happened to Neurath in those years between 1919 and that meeting when I found him so much changed. The defeat in 1918 of the Central Powers was followed by a period of hunger and revolution, and soon of reaction. There was an upsurge of the ideals of the French Revolution, and of Marxism, and a hope of establishing a freer and better world, and to banish war and authoritarianism for ever. There was also much admiration for the Russians who in 1917 at Brest Litowsk had made peace, under protest, with the Central Powers, in the name of pacifism. It was a mood which called forth, in many people, the best of feelings: helping the weak, ironing out all class differences.

But this hopeful humanitarian spirit was soon to encounter disappointments, and after a short time the Austrian Republic, like the Weimar Republic, ran into trouble. This was partly due to the excesses of the communists which very soon led to militant counter-excesses from the right: it was a period in which many militant right wing organisations were born, in which, in Italy, Mussolini came to power, and in which almost daily political terrorism was attempted, somewhat halfheartedly, by some left wing organisation or other to be countered ruthlessly by the superior armament of the right wing, with the social democratic middle parties muddling through, bewildered, talking of the inevitable coming of socialism, and doing little or nothing.

For the more thoughtful among the hopeful ones this sad period presented an intellectual and moral challenge; and those who were young enough might even be able to jettison most or all of their socialist dog-

mata without giving up their humanitarianism, and their optimistic faith in mankind. But for those among the socialists who were not quite so young the situation was deeply depressing. They were constantly on the defensive, not only politically, but intellectually.

I do not know, of course, whether the change in Otto Neurath's attitude which I have mentioned was due to these developments; I cannot even know whether there was a change: may be this change only existed in my imagination. I can only say that I felt the change, that it saddened me, and that I think it likely that it was explicable along the lines here suggested.

Meanwhile I had myself long been deeply critical of Marxism, with its historical prophecies, and even of the possibility of any historical prophecy; and these critical ideas had led me to become interested in problems of the theory of knowledge and of the philosophy of science, and their bearing on political problems. I was therefore very much interested to find that Neurath also felt that such philosophical problems are important for politics. He later published some articles alluding to the significance of the theory of knowledge for politics; and he mentioned the philosophy of the circle round Schlick and Hahn as promising in this respect.

I have little doubt that it was Otto Neurath who, with the hope in mind of a philosophical reform of politics, attempted to give to the circle of men around Schlick and Hahn a more definite shape: and thus it may have been he, perhaps more than anybody else, who was instrumental in turning it into the 'Vienna Circle'. It is interesting to note, in this context, that in the early publications connected with the circle, it was presented as a kind of continuation or renewal of the circle which once had been formed by the friends of Ernst Mach. (Actually, Neurath founded in those days a Mach Society – 'Verein Ernst Mach' – intended as a body presenting the ideas of the Vienna Circle to a wider public.) This is the more interesting as Schlick, though the leader of the Circle, was philosophically opposed to Mach's ideas and had, in fact, just published a most thoughtful – and indeed devastating – criticism of Mach's and related ideas (in Chapters 25 and 26 of the second edition of 'General Theory of Knowledge', 1925). Schlick was, in those days, a realist, who was inclined to despise the phenomenalist (or idealist) tendencies of Mach which the Machians liked to describe as 'neutralist'. It was not long afterwards that

Schlick, under the influence of Russellian ideas, of Wittgenstein, and probably also of Carnap, became a 'neutralist' while Neurath became a 'physicalist'.

I heard about these matters from various members of the Circle – especially from Heinrich Gomperz, and later from Victor Kraft, Herbert Feigl, Hans Hahn, and Fritz Waismann. (I myself was never a member of the Circle, though Neurath used to describe me as the Circle's 'official opposition'.) I met Neurath twice in those days in his office at the 'Social and Economic Museum of the City of Vienna' which he had founded (where I also met his secretary, Miss Reidemeister, who later became his wife; her brother had been one of my teachers at the University), and in various other places; once or twice I think at Edgar Zilsel's; he also came to a lecture in which I gave a criticism of what I believed was the central dogma of the Vienna Circle – the 'verifiability' theory of sense or meaning, and the doctrine of the meaninglessness of all non-scientific utterances.

On all these occasions I was still deeply impressed by the power and vitality of Neurath's personality. He had even recovered part of the exuberance and assurance which had characterized him in those days of 1919. He was again hopeful, and he enjoyed his role in the Circle, in which he was the strongest personality, even though he was not its philosophical leader.

It was largely due to Neurath that the Circle became famous. Neurath inspired the founding of *Erkenntnis*, edited by Carnap and Reichenbach; he worked for co-operation with similar groups on an international scale: he organised its congresses, got a plan for regular 'Congresses for Scientific Philosophy' accepted; and founded the 'Unity of Science Movement' and the 'International Encyclopedia for Unified Science'.

I know, from conversations with Neurath, that one of his main motive forces in all this was his belief that it would help towards a revival of politics, which for him meant revival of socialism. And the book which he published in 1931 under the editorship of Schlick and Frank – 'Empirical Sociology' – was an expression of the same tendency.

I hoped that the new philosophy of science would be able to make important contributions to political theory, but, in the main, contributions critical of those very ideas which Neurath still adhered to (such as historical prophecy, and many others). So whenever we met, there was a

head-on collision in precisely that field which interested him most; and this made him suspicious of my philosophical ideas (which he criticised in a paper called 'Pseudorationalismus der Falsifikation' in *Erkenntnis* **5**, 1935, pp. 353–365).

Thus we clashed at the Paris congress in 1935 (see my 'Conjectures and Refutations', Chapter 11, especially Section 4, and note 44) mainly over the 'nouveaux encyclopédistes' and the 'International Encyclopedia' (I did not believe in the 'Unity of Science' in his sense, even though I believed in something like a unity of method), and again at the congress in Copenhagen (over the 'unified language' and 'universal slang' as Neurath called it). There, at Copenhagen, we met for the last time.

It was with the feeling of the utmost admiration and relief that I heard later of Neurath's, and Mrs. Neurath's, escape to England; and I was saddened when I heard of his death. Neurath and I had disagreed deeply on many and important matters, historical, political, and philosophical; in fact on almost all matters[22] which interested us both except one – the view that the theory of knowledge was important for an understanding of history and of political problems. Yet though we had disagreed so deeply about so many and so important matters, I shall always feel that he was one of the strongest personalities I ever met; a real original thinker, and an undaunted fighter who dreamt of a better and more humane world.

16. 26 September 1924 and after

From Marie Neurath (at that time Marie Reidemeister)

I went to see Otto and Olga in Vienna because my eldest brother Kurt, the mathematician, who was teaching at the University of Vienna at that time, had told me I should. I joined Professor Nohl, one of my teachers at Göttingen University, and his group of students, on a journey to see what Vienna had done for school reform. I went one evening to the very poor house in the fifth district where the Neuraths lived at that time. Otto opened the door when I rang; "so this is Mieze," and took me by his strong hand into the room to Olga. She was sitting in a special nook made for her in between the bookshelves, complete with Serbian rugs and a shelf for her smoking things. Books covered all the walls from floor

to ceiling in the irregularly shaped room; other bookshelves were used to divide another room in two; over the door of the sitting room was a horse's skull; behind lower shelves was Otto's writing corner, with his typewriter, and heaps of notes – his articles and books in the making. On that evening I had taken a student with me and he and Otto did most of the talking. I was very impressed by the manner in which Otto swept everything away which was vague and empty. "Progress? What do you mean?" My student-friend said he would not find life worth living unless he believed in progress. Otto obviously did not need such a rather shaky belief to be active and enjoy life.

After the Nohl group had left on September 30th, I moved to the Neuraths to spend a few weeks more in Vienna. On the 30th, Professor Berlage, the famous Dutch architect, lectured and Otto was in the chair. Afterward we went together to a coffee house; something had happened, the special room was not reserved as it should have been, but quickly some folding walls were improvised, and we had our private gathering. Coffee houses do not only offer good coffee and glasses of the excellent Vienna water from the mountain springs, but also heaps of newspapers. I was amazed to see Otto glance quickly at them, one after the other, before turning his attention to the guest of honor at his side, Professor Berlage. But then indeed the conversation began with all intensity and brilliance. I was especially entrusted to the wife of one of Otto's colleagues who made me feel at home in this new atmosphere. Then Otto took me by the hand and we walked home, through the Stadtpark, along the strangely encased Vienna river, past station buildings of the underground built by Wagner, talking about town and country life. Otto told me of the assets of life in a city which is too big for the irritations of gossip in smaller places.

Asked about my studies, I spoke of my failure with Hegel. My interest in everything visual had led me to try to work on the philosophy of aesthetics, but I could not understand Hegel, hard as I tried. Otto was delighted: "But it is impossible to understand Hegel; it is good that you have noticed it."

The next day I said that I wished I could stay here forever. For Otto this was very simple; it had only to be organized. I was to finish my studies as quickly as I could (in fact I took my oral examination two weeks after the delivery of my papers, and this was normally 'not done')

and he would also in the meantime get the Museum of Social Sciences going, and he would also make his publisher pay advances for a salary for me to help him in his next book *Lebensgestaltung und Klassenkampf*.[23]

Otto took me to his Museum of Housing and Town Planning. I was most impressed by how interesting statistical facts became in these charts. Asked whether I would be able to help in making pictorial statistics, I said I could not tell, I had never tried. I was there, quietly sitting in a corner, while Otto put his plan of a museum with a wider scope before the Viennese town councillor for finance. Otto talked and talked, Breitner the councillor listened silently, leaving Otto guessing what was going on in his head, until Breitner suddenly said, "Well, I think that can be done. How much money would you need?" Otto quickly did some sums in his head and gave an estimate. "All right." Before the year ended the plan had been passed by the Town Council.

I passed my examination by the middle of February 1925, took some typing lessons in my home town of Brunswick, and joined the staff of the Social and Economic Museum in Vienna on March 1, 1925. I was sure this was a decision for life. But I knew I could not convince my parents. I said I was going for the summer, and took only summer clothes. I assured them that such an interruption would not endanger my later return to the security of the teaching profession.

At first the three of us who formed the staff had the tiniest of rooms but when we began working for the GESOLEI we moved into larger rooms in a municipal building. Our staff had greatly increased, and many persons were engaged temporarily for the exhibitions which were to become more and more frequent. In 1927 a big hall in the New Town Hall of Vienna was given to us as an exhibition room. For the entrance, straight from the park front, Otto had a relief map of Austria made, 8 meters long and 4 meters high, covered with metal; mountains above 1000 meters high were cut out of wood 3 or 5 cm. thick; colors showed the use of soil. On the metal surface magnetic symbols were put to indicate industries by numbers employed; an enormous block was needed for Vienna. It was most impressive and beautiful. A geographer who had expressed himself sceptically about this plan was later most enthusiastic. The enormous hall itself was subdivided by the exhibition stands with interchangeable charts; the lighting downwards on the charts and the red

carpet left the gothic vaults in the dark. Josef Frank, Philipp Frank's brother, was our architect.

Besides the ever growing work of the museum, there was much else to do. Otto lectured several times each week to youth groups, labor party precinct wards, scientific or secular societies, adult evening classes, and I accompanied him everywhere. Only two things were closed to me: the one was the labor university with set courses and especially admitted members; the other was the Vienna Circle, with discussions on Thursdays. To this, Olga always went with Otto, and as long as my brother was in Vienna he also attended. Besides these activities, Otto wrote his many articles and several books, and he was reading all the time. Later, in Oxford, he once estimated that on the average he read two books a day. And the books are full of his notes, cross-references, critical marks, and marks of approval. Yet he always had time to write letters, meet friends in the coffeehouse, go to the cinema, and make excursions into the mountains on Sundays. He liked to do three things at the same time. Once I went with him to the greenhouse in Schönbrunn and complained that he rushed through without looking. He said: "Shall I draw you the flower we passed a few yards back?" He did, and I compared and was amazed. Of course I could not have done that with all my more leisurely looking.

When we had arranged to meet somewhere, it always came out right, even if it were complicated for some reason. Once when he went to Graz to lecture I had to take something to him in the train. I went to a station in the south of Vienna where all trains stop; I entered a train and ran through to look whether Otto had taken this one; when the train began to move I wanted to step off, but just then a conductor entered and did not allow me to do so. And so I went to Wiener Neustadt without a ticket. Otto came on the next train. I knocked against his window in Wiener Neustadt and handed him the parcel – he was delighted. The double return fare I had to pay later was worth it.

In 1928 we went to England for the first time. One of Otto's Viennese friends happened to be there too, and one day we decided to go and see him. We looked up where Park Lane was and took a bus. By mistake we passed the right stop, got out at Hyde Park Corner, and walked back. To our amazement, who was standing at the Park Gate at Hyde Park Corner? Our very friend. We ran to him with great hullo but he did not

look surprised at all. "Did you not get my postcard in which I asked you to be here at 3 p.m.?" It was 3:05 p.m. "No", we said, "the Central Post Office is so far away, we just came to your place in Park Lane." "But, my dear friends," he said, "I stay in Park Lane, Croydon, more than an hour away from here."

In 1929 we worked for the big Atlas *Gesellschaft und Wirtschaft* at the request of a famous Leipzig publisher. This was, I think, the peak year for us. Each week a group of scholars met in our office and helped with research and consultation and new map projections. We could afford the best designers from Switzerland, Germany, the Netherlands, Czechoslovakia, and even the Bauhaus. For myself it was most rewarding. I made all the rough drafts for the charts, with the most active participation of Otto in every one of them. My room was next to his. I went to and fro to improve the drafts. You could interrupt him in the middle of anything – he was never disturbed and could switch back in a matter of seconds.

Otto also spent hours with the designers over the symbols. The language principle had to be followed in every detail. The more talented a designer the less he is inclined to give in to instructions; but Otto loved opposition, he much preferred a strong partner in work to one who slavishly obeyed. What he needed was a designer who had the same tendency towards clear expression that he had. This is how he found Gerd Arntz, his star designer. Otto was in Germany for the first time since after the Munich adventure to attend the opening of the GESOLEI in Düsseldorf. There he looked around in art exhibitions – since he had always been on the lookout in Vienna for the right artists – and saw some wood cuttings by Gerd Arntz. He discovered where he lived and asked him: "How much do you cost?" I don't think Gerd gave a figure. For a year or two he contributed by sending us designs to Vienna, but then he joined us about 1928. Our first colored picture book, *Die bunte Welt*, already contained some of his designs. Otto's contact with the Bauhaus people was partly through this work, partly through the lectures he was asked to give at the Bauhaus in Dessau, and the talks he had with the people there in the evenings afterwards. I remember how he ridiculed one of their designs, a house for bachelors, from the point of view of the human beings who were to live that way, – (see, below, what he later said in Bilston.).

Now we began to become known beyond Austria's boundaries. The

Russian Embassy sent observers into our museum. They were interested in the representation of statistics, as everybody is who is proud of progress. A mayor of Berlin came and asked how much it would cost to make a museum like this? There were many other visitors from other countries but the two mentioned actually led to exciting developments. We did develop a museum for a district in Berlin, and we did train Russians in our method in Moscow. We were also invited to make charts for a peace conference in the Netherlands, and for another organization in the Hague. The International Institute for Human Relations in Industry organized a World Social-Economic Planning Conference in Amsterdam and invited Otto to give an illustrated lecture. The conference itself was beautifully prepared and planned; Otto was most impressed. We had prepared an interesting series of charts. Otto arrived in Amsterdam, but the charts were not there. It was Sunday. Everything is closed on Sunday, Otto was told. But he went to the station. He found a man in the freight office who had forgotten to take something home and had just arrived with his keys. Otto saw our crates. "But dear man, you are here and I am here and there are the crates I need urgently, why not allow me to take them away in a taxi? I shall give you all the signatures you need, and my eternal gratitude." The good man could not resist for long, and Otto got his crates.

When Otto was first invited to Moscow for negotiations about his 'Vienna Method', he had been a guest in a former palace which was maintained with exquisite service to accommodate ambassadors and people of that rank. On his next visit he was given a room in the Grand Hotel, and the first three of us who joined him there, Arntz, a technician, and myself, were also given rooms there. We had to bring several crates along with material needed for the work. At each frontier there was customs control, and something had to be paid in all these currencies. It took terribly long to find out our final payment at the Russian frontier, and I sat there trembling, not knowing whether I had enough cash left. In the end I had just enough, about 5 shabby schillings being left over. When I reported this to Otto in Moscow he was pleased because it showed that I had luck. He agreed with Napoleon who, in his description of his generals, mentioned 'has luck' as an asset.

It was interesting to see Russian life so closely from within a workshop, and to meet people and converse with them over many cups of tea for

hours at night. But after some time the novelty of it wore off; also the treatment we were given deteriorated in time, nothing like the Grand Hotel any longer.

One evening we had been with friends and walked to our hotel past the Kremlin. Otto was in a strange state as if he was going to be sick, or as though something labored inside him – a feeling that something new was going to happen. Arriving at our hotel we found a cable. It was from New York inviting Otto to lecture there. It was from the same friends who had organized the Amsterdam congress.

The world depression, even more the political situation, in the early thirties weighed heavily on Otto. His optimism gave way to sad forebodings. Vienna's position became hopeless, with Dollfuss, Hitler, and Mussolini about. But Otto did not want to give in. He wanted to find another foothold. Berlin, where we had a branch, rapidly became the most impossible place in the world. We never seriously considered Moscow. Prague? One of Otto's advisers, a minister in the Czech government at the time, pointed out how dangerous the situation was there also and urged Otto to move closer to the West where he could have free access to the Western world. So the Hague became Otto's choice. The first step in establishing a foothold there was to open a branch in Amsterdam where Professor Posthumus offered hospitality to us in the Library for the History of Economics. In 1933 Otto founded the International Foundation for Visual Education in the Hague. Our Dutch friends gave a helping hand.

In February 1934 the brooding storm in Vienna broke. Otto was in Moscow, but before he had left he anticipated the worst and arranged with us to cable 'Carnap expects you' if we wanted to advise him not to return to Vienna. Immediately after the shootings in the street, the police came to our office and rummaged through Otto's desk. In my room they looked at nothing but the file 'Neurath, personal'. The situation was clear: obviously Otto had been denounced to the police as a Communist. I sent the cable 'Carnap expects you. Letters forwarded to Philipp' to indicate that I would meet him in Prague in the home of Philipp Frank. We met again at Brno, together with our grand Dutch friend to discuss what steps to take. I also took a duplicate passport to Otto, bearing no Russian visa, which a kind Austrian consul in Sweden had provided for him. Our Dutch friend came back with me to Vienna and gave me the

necessary signatures so that we could make all our moves legally. We rented a room for our International Foundation and painted a sign in Dutch for it, to make quite clear that this was foreign property, and moved all those things into the room that were needed to enable us to carry on in Holland. Otto travelled via Poland and Denmark to the Hague, and I joined him a month later to look for a house. We had many choices and selected the upper maisonette in a row of flat-roofed terrace houses, consisting of two stories, the lower with a veranda, the upper somewhat smaller with a balcony above the veranda. The lower became the home of Otto and Olga, the upper became mine. Olga had to break away from her old mother, from her sister and many friends; Otto had left a whole world; we had left behind many of our collaborators, taking only a nucleus staff of three others and we entered a strange country, kind and helpful but strange, where at first Otto found little response – "we are interested in things more spiritual" – though in time there was a circle of real friends, around Olga, around all of us, and indeed several of these friendships have survived to this day.

For half a year the work with Moscow continued from Holland, then it ended, and the contract which had provided for a lump sum at this stage was not honored. It was hopeless to fight the Russian government and so we entered into a period of extreme poverty until Otto was invited to America again. We worked for the National Tuberculosis Association, for a children's encyclopedia, and were invited to Mexico to give instruction in visual technique to the staff of a new museum for science and industry. We spent six wonderful weeks in Mexico, working, meeting delightful people, being taken around and seeing the great beauty of this country – and some of its horrors too. Otto got a contract with Alfred A. Knopf for *Modern Man in the Making*. The new work gave us new joy, and recognition and opportunities came to us from the Netherlands also. Then, sadly, just when life had started to become easier, Olga died, in 1937 after an operation.

I remember when Otto and I were walking together one evening along the street to post several letters and we were talking about *Modern Man*. Otto remarked that we had only to put together some of the many things we had done in the past; and for once it was my turn to suggest: why not use this chance to make something quite different? It was all in our hands. And so the picture-text style idea was born that night. It certainly

came more from his brain than from mine, but I did present one real gift to him at that time, the word 'Isotype'. He heard it and liked it, and he asked Arntz the next day to design an Isotype trademark.

17. CHARLES MORRIS

Charles Morris, the American philosopher, writes:

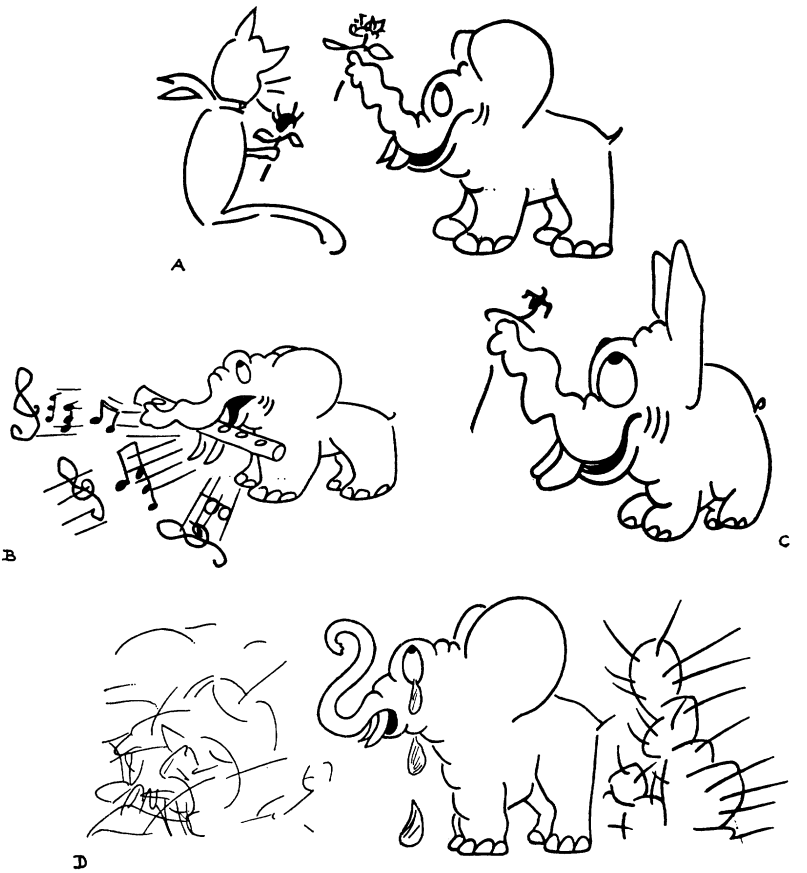
Otto Neurath was in physical bulk just large enough to fill a bath tub – very little water would do the rest. There was a rumor that sometimes late at night he would end a discussion in such a tub....

Neurath often signed his letters with a drawing of an elephant – trunk erect and holding up a flower when Otto was jubilant, trunk lowered and body walking backward into a cactus when he was temporarily depressed; once there was a big belt tight around the elephant's middle, as if Neurath had given a passing thought to reducing. It would be well worth while to publish a set of such signature drawings.

My own contacts with Neurath were centered mainly around the *International Encyclopedia of Unified Science*, and secondarily around the International Congresses for the Unity of Science. I vividly recall Neurath's visit to Chicago in 1936 to present his plans for publication of the *Encyclopedia* to the University of Chicago Press. He, Carnap, and I met with the editors of the Press. Although we had no funds to finance the enterprise, the editors of the Press agreed to publish the first 20 monographs if we could get a certain number of advance subscriptions. Many more were obtained than were required.

This was characteristic of Neurath: he was accustomed to getting his ideas carried out, and his hearty, gay, vigorous, and confident manner dissolved doubts and hesitations. His torrent of talk helped carry things along. He said at that occasion, "I speak broken English fluently." It was not, in 1936, the professor's or actor's English, but it was understandable and compelling.

It was Otto Neurath's vitality and enthusiasm which swept along the *Encyclopedia* and the Congresses. He made very comprehensive plans for these (and other) enterprises to be carried out after World War II. His death was a sore loss of sustaining leadership. In human stature Otto Neurath was very large indeed.



A "We shall expect you Monday... We shall take care of... sunshine, flowers, birds, and friendship."

B (to a professor of philosophy) "May we expect you both? I think we should put our daggers into our drawers and use our flutes..."

C "You should read Iphigenie – please do and tell me what you think. Sacrificing brother, friend, soldiers for the purity of the own soul..."

D "There is hardly a German writer of some stature who writes ... in a way that I feel his warmth, his mercy,... his sadness that war and persecution fill the world..."

Revised excerpts from *Charles Morris*, 'On the History of the International Encyclopedia of Unified Science', *Synthese* **12**, No. 4 (D. Reidel Publ. Co., Dordrecht, Holland), December 1960.

Until Neurath's death in 1945, Carnap and I had a very voluminous correspondence with him. On my desk as I write this is a pile of letters from those years well over a foot high....

The original idea of the *Encyclopedia* was Otto Neurath's. In a letter of 1935 he wrote that he was at work on the project at least as early as 1920. He wrote that he first talked it over with Einstein and Hans Hahn, and had early discussions about it with Carnap and Philipp Frank. In 1934 Neurath founded the Mundaneum Institute at the Hague. He had set up 'The Unity of Science Institute' in 1936 as a department of this institute, and in 1937 this was renamed 'The International Institute for the Unity of Science', with Neurath, Frank, and Morris forming the executive committee. An 'Organization Committee of the International Encyclopedia of Unified Science' composed of Neurath, Carnap, Frank, Jørgen Jørgensen, Morris, and Louis Rougier was set up as well. (Also formed was an 'Organization Committee of the International Congresses for the Unity of Science', composed of the same persons plus L. Susan Stebbing.) The general project of the *Encyclopedia* was discussed at length at the First International Congress for the Unity of Science in Paris, September 1935, and the Congress voted approval of the project.

My correspondence contains three extensive statements of Neurath's ideas about the *Encyclopedia*: a five page outline in May 1936, a four page statement in February 1937, and another four page discussion in June 1938. There were many letters back and forth concerning these proposals. Neurath's ideas ranged very far.

In addition to the two introductory volumes (each to contain ten monographs) with the combined section title of 'Foundations of the Unity of Science', Neurath thought of two (and at times of three) other, and larger, sections. The three of us came to no agreement as to the proper title for these sections, but the general plan was clear. Section 2 was to deal with methodological problems involved in the special sciences and in the systematization of science, with particular stress to be laid upon the confrontation and discussion of divergent points of view. Section 3 was to concern itself with the actual state of systemization within the

special sciences and the connections which obtained between them, with the hope that this might help toward further systematization. Neurath in 1938 was thinking of six volumes (60 monographs) for Section 2 and eight volumes (80 monographs) for Section 3. But there was even more in his bag of ideas than even this.

Neurath had long planned a comprehensive 'Visual Thesaurus' (sometimes he called it the 'Pictorial' and sometimes the 'Isotype Thesaurus') which would be 'eine Weltübersicht in Bildern'. At times he thought that this might be an adjunct of the *Encyclopedia*, in which case he proposed an additional Section 4 which would exemplify and apply the methods and results of the preceding three Sections to such fields as education, engineering, law, and medicine. Neurath proposed ten volumes for this Section, each of which would have a pictorial companion in the *Visual Thesaurus*. So that at the most elaborate range of his proposals Neurath was thinking of a 26 volume (260 monographs) *Encyclopedia* supplemented by a ten volume *Visual Thesaurus*.

At one time Neurath had contemplated English, French, and German editions of the work. He conceived of it as genuinely international in scope, with writers from Asiatic countries as well as from the West. It is clear from a number of his letters that he had the great French Encyclopedia often in mind, both with respect to the historical importance which he envisaged for the work he planned, and with respect to the difficulties the two enterprises encountered. A letter of November 19, 1944, gives a long, nine-page discussion of Neurath's post-war plans for the various agencies of the Unity of Science movement (the *Encyclopedia*, the *Journal*, the *Library*, and the Congresses). My last letter from him was dated November 7, 1945. He died in Oxford on December 22, 1945, at the age of 63.

We had hoped in 1939 to complete Section 2 by 1944. And here it is 1960, and the first Section 'Foundations of the Unity of Science' is still not quite complete!

The *Encyclopedia of Unified Science*, though now only a fragment of what had been planned, has had historical significance. The monographs are still very much alive. The movement of which the *Encyclopedia* was a part continues to develop vigorously in its own way. The Institute for the Unity of Science continues its activity in the United States under the leadership of Philipp Frank.[24] Whether the larger plans for the *Ency-*

clopedia are ever to be resumed is a problem for another generation. But the years of the Congresses and the *Encyclopedia* were memorable years.

18. MARIE NEURATH: 1940–1945

When war broke out Otto was in Cambridge, Mass. for the Unity of Science Congress. He fortified himself with an array of letters of recommendation to pass through the British blockade; he was determined to return to us. He did. Our attempts to get away together before the war – to Norway? to Mexico? – had failed. *Modern Man in the Making* had just been published. We had worked on a second travelling exhibition for the National Tuberculosis Association of New York, and conducted research for *Persecution and Brotherhood* which Alfred A. Knopf wanted to publish. A rich American who was in favor of Otto's ideas made our work possible by sending us regular monthly sums. We spent much time in the Royal Library in the Hague together, collecting material on the Huguenots and on the one great tolerant period of Prussia when it invited the French refugees to settle in the towns which had suffered destruction and decline as a result of wars. We spent the evening of May 9, 1940 in this library until closing time at 10 p.m.

On May 10th we were shaken out of early morning sleep by the sound of shooting. There were great numbers of planes in the sky and the wireless warned that more were approaching. In the office we met our collaborators, but were soon told by our Dutch secretary Annie that the wireless had just announced that foreigners were not allowed in the streets any longer; so we said goodbye to the others, telling them that each had to make up his own mind about what to do; we separated and departed for home. Only our Dutch acquaintances could keep us in loose contact for the following four days of fighting. Somehow life went on, in spite of constant air alarms. Food was brought to the door; many visitors even came to see us. In between we played chess and listened to the radio. Now we can marry, Otto said. He assumed that under circumstances like these the Dutch authorities would disregard their contract with Germany and would no longer follow German law with respect to marriages of persons with German passports as we both were since Hitler's occupation of Austria. The problem was that Otto was half-Jewish and I a 'pure Aryan'!

On Monday, May 13th, things went wrong. The sky was red from the burning of Rotterdam, the ground was shaking. We were very depressed when we said goodnight and for a while I sat at the top of my staircase with Otto standing at the bottom, still weighing our chances. But we slept well and in the morning feeling somewhat refreshed we knew what to do. Put on clean, good, and most sensible clothing; gather up the most important documents and what little money we had at hand; and prepare a small suitcase should we be able to find transportation. Then wait and see what would happen. Going into the street now was impossible. A gun was pointed at us if we so much as approached the window. On the top of the flat-roofed houses in our street were machine guns. The whole town was now a battleground. But there were lulls, and some Dutch people still got through the streets to our house. A Jewish friend, a professor of mathematics, came with his wife and two children. The children wore their names on tags in preparation for flight and the ensuing chaos. But in the end they did not get away and lived through the horrors of occupation. When the news of the surrender came over the radio, Annie arrived with her husband to tell us the same news. Otto put on his coat and hat and said, "Let's go." "Yes", I said, "we'll go together." Annie turned white as a sheet, "Where will you go?" I answered that we would go to Scheveningen to see whether we could get away, and I asked her not to worry about our possessions but to look after her own safety, and kissed her goodbye.

We walked leisurely away as if we did not want anything but fresh air. As a cyclist I knew every street near our house and in half an hour we were at the harbor. But we could not see any ship with refugees among all the fishing boats and we dared not approach any of the fishermen who stood about smoking their pipes. On the beach we saw Dutch soldiers pack up and leave. Heavy black smoke filled the air, rising from a nearby oil dump now in flames. "If we do not find a boat I am going on a piece of wood," Otto said. But I was not ready for that yet. We went back to another part of the harbor, and saw a taxi. Something must be going on there. A shed blocked our view. As we came nearer we saw a boat full of people. Our hopes raised but then we noticed a soldier standing on board holding a gun. What did it all mean? Then among the crowd of passengers, we recognized a Jewish couple from Berlin; the soldier was in fact their Dutch son-in-law. This, we decided, is the

right company and without further hesitation, we made the big jump from the wharf down to the small boat. Our heavy weight gave the impression that all who were standing there watching had wanted to get on, and the soldier shot into the air. Otto yelled to me, "Have you broken your leg?" "No," I said. "That's fine, then everything is o.k." And so our adventure on the *Seaman's Hope* began.

It was the official lifeboat of the province of South Holland. Four students who wanted to escape had seized possession of it after having had their eye on another boat whose owner was there and had said, "Only if you kill me first." One of them had cycled from Groningen, the other three came from Delft. None of them were experienced sailors. Our chance to board it came because they had not yet found out how to start the motor when we arrived. We were the last of the 47 passengers who joined the students in their flight. They knew the boat was overloaded but nothing could help that. Otto and I had to move to the back of the boat where we sat on a heap of ropes, that gave at least a better balance. We left as night fell, with a full moon and a smooth sea. An hour later one of the pistons began to give trouble. A young Dutchman, who said he knew something about sailing, stood up and declared, "It is mad to try to reach England. We can't with such a machine; the majority is in favor of turning back." No vote had been taken; no vote was taken now. The students just went on undisturbed, the young man shut up, sulking. But he was the first, the next afternoon, who spotted smoke at the horizon and pointed out the ships.

For us this was a great adventure indeed. We were immersed in the stories of the Huguenots and their flights in fog and night over the frontiers and the sea – so there we are, now we know how it feels. We were leaving behind us the burning Rotterdam in an occupied country about to suffer foreseeable agonies. Trusting our luck to this tiny nutshell of a boat, we felt extremely happy to have found it and to be alive together, shoulder to shoulder.

"What would you say if I did some lecturing at a university in England?" Otto said. I just laughed; in fact ultimately he was to do just that. Near us a woman was worried to tears. "Don't worry," Otto said, "we will all be needed in the war effort." He had a great liking for Harry Hack our captain, whose name sounded like that of a romantic pirate to Otto and he never forgot it.

When, in the afternoon, we saw smoke, and then several ships, drawing ever closer to us, our only thought was how to make ourselves noticeable to them. We looked for flags. We knotted the Dutch flag and raised it – the symbol for SOS; but that was as far as our knowledge of the sign language of flags went. There were many other, single-colored about and we raised them all. Otto said, "Never mind if it's nonsense; if it is, they will think we are out of our minds and the more needful of their help." The ships, obviously noticing us, came quite close. They did not carry a flag but there were identifying letters along their sides. We strained to make them out but all we could come up with was something like 'D76'. Does 'D' stand for Deutschland???

Then, through a megaphone, we heard a voice calling out in English, "We'll come and help you," and our tension gave way to delight. We climbed on the destroyer over rope ladders, had a chance to clean up, and enjoyed the best tea of our lives. That our passports made us their enemies we could not bear to admit at this moment of bliss. We had to admit this soon enough at Dover where we landed.

In Dover we were separated at once. Otto, still under 60, was taken away with others by the police. I was given 'H. M. Prison Pentonville' as his address. Other couples and families were also separated, and there were soon several women to share my loneliness. The first who was given into my special care was an expectant mother. Her embryo has now grown into a teacher who uses Isotype books with pleasure. We German women were first kept together with the Dutch until the authorities made up their mind to put us in prison too. This interval was useful. I was able to call an old friend of Otto's and tell her we were here and I could write to Professor Susan Stebbing at the University of London. The friend was allowed to see me and to post the letter. Susan answered straight away to Fulham Institution where we were first kept under lock – a strange place like a workhouse out of a novel by Dickens, – and in the end the letter reached me in Holloway Prison. She looked after Otto and me wonderfully. Later she became the first chairman of the Isotype Institute.

Otto was most interested in experiencing prison life – no amount of money could have given him the chance. I did not have a moment's doubt about his mood in this respect. He enjoyed the great variety of intelligent people he met during internment, and friendships for life were formed. It was very fortunate that his passport described him as a married

man, and being careful not to correct this, he joined the first meeting of husbands and wives in our camp. The men marched in alphabetical order. When I saw Werner Goldschmidt, I ran to him saying, "Give my love to Otto." "Oh, just wait for 'N', he is coming," he said. And there he was, beaming with delight. What a day of reunion, a date never forgotten, the 26th of July. Later we exchanged properly signed promises of marriage and were again allowed to join the meetings. We were also put together before the tribunal which tested our political and even our mutual loyalty. I was released one day before Otto. I opened the door for him when he rang at midnight of the 9th of February 1941. G. D. H. Cole had offered us hospitality. We were married in Oxford at the earliest possible date, 26th February 1941.

What next? We scraped our few pounds together and sent a cable to friends in the Unity of Science movement with a request for help in our immediate emergency. They responded with utmost speed and great generosity. Then there was the American who financed *Persecution and Brotherhood*; when he heard we could now carry on in the Bodleian Library in Oxford he again sent regular monthly payments.

Then one day a letter came from our solicitor; Paul Rotha the documentary film producer, wanted our address. That was the beginning of a new chapter. Rotha came to see us in Oxford. But we found it impossible to receive him in our combination bedsitting room with its little table in the middle. Since the table had to serve for meals and for work, we had acquired a drawing board which we could lift off with the work when the meal arrived. So we asked for a room in G. D. H. Cole's library and quickly made it look as if we had used it for some time.

In order to seek out designers to work with us, we found somebody who gave us an introduction to the head of the art school. Several of the teachers helped us; they also brought some pupils along. The first boy and the first girl they brought have stayed with Isotype for more than twenty years.

When our help was also asked for book illustration, our staff had to grow and we needed more space. We found houses with quiet gardens in the hilly environment of Oxford. I took to doing my Isotype work in the garden. Otto loved to look after the climbing roses in between his work at the typewriter – an absolutely new and delightful experience for him.

A doctor who was interned with Otto advised him to reduce his weight. "You could prolong your life by eight years if you do," he had said. That's worth it, Otto decided, and avoided starch, sugar, and fat. I had to buy and cook large amounts of vegetables, and every day his weight was checked. But it was absolutely necessary that I was present, Otto put his hand on my shoulder when he got on the scales, and together we looked carefully and decided which of the positions of the hand gave the right weight. I wish the eight more years had come true.

Otto Neurath himself gave details about our life in England when he was interviewed by the BBC for a broadcast to Austria on Tuesday, November 27, 1945, at 6:30 p.m. (in German).

After a short introduction about his life and achievements, he was first asked to tell about his adventurous flight to England in May 1940, congratulated on his safe arrival, and asked whether he could take up his activities straight away.

Neurath: No, not straight away. We were enemy aliens and arrived without permission. No wonder we were interned – a bit too long, though. But British, American, and Austrian friends put in a word for me.

Announcer: Successfully?

N: Oh yes. I was even invited to give lectures at Oxford University. For two terms I have lectured at All Souls College on Logical Empiricism and the Social Sciences.

A: And how did you get on with visual education in England?

N: Very well. Our British friends have helped us a lot. Our late friend Professor Susan Stebbing assisted in the foundation of the Isotype Institute in Oxford, and my wife and I were appointed joint secretaries and directors of studies. Our Institute has been dealing with many fields of knowledge. In the course of years we have been accepted in England and have become known. Paul Rotha the well-known documentary film producer asked us to work with him on several films which were partly composed of documentary material together with Isotype animated diagrams, partly consisting of such animated diagrams only.

A: What do you mean by animated diagrams?

N: Our Isotype picture language is made up of self-explanatory pictorial symbols. It serves to explain technical, statistical, and biological facts to the general public. In our animated diagrams our little symbols move, and the British are as much pleased with that as the Viennese were in the past. By the way, to explain the word Isotype, it is made up of the first letters of International System of Typographic Picture Education; it also means something in Greek: using always the same symbol.

A: I see, now I understand what Isotype and animated diagrams are. But you wanted to say more about these films.

N: Yes, the first full length feature film of this type was 'The World of Plenty' which was also shown at the World Food Conference in America. Our Institute also did work for the Ministry of Information.

A: For films only?

N: No, also for books, These are popular books on different subjects. For instance, in a series called 'New Democracy', one title is 'The Battle for Health,' another 'Women at Work.' Other series are on Britain and America, and Britain and the Soviet Union.

A: No wonder that you have become known in this country and have, as far as I know, recently been mentioned in the BBC News. Something could be read in the papers about your activity in Bilston. Could you please tell us about that?

N: With pleasure. It started when the Town Council asked us to make exhibitions in connection with their slum clearance plans. At the very first meeting it became obvious how interested the Bilston officials were to hear about experiences I had during my close contact with the Viennese housing program when I was General Secretary to a housing co-operative (Österreichischer Verband für Siedlungs- und Kleingartenwesen).

A: Did the people in Bilston know anything about housing in Vienna?

N: Yes, indeed. It has won respect throughout the world. The leading persons in Bilston have asked me recently whether

I could be at their disposal permanently for advice. I have agreed with pleasure.

A: It seems, from all this, that you had no difficulties in England getting your ideas across?

N: No, I hadn't.

A: And what do you feel about personal contact here?

N: I must say seldom have we felt more at ease than here. Many distinguished persons have received us kindly and have helped us. Contact with officials is pleasant and stimulating, never stiff.

A: And how is your contact with your audience when you lecture?

N: I can't complain. Even my jokes find a good response – though my English is far from perfect.

19. BILSTON AND A. V. WILLIAMS

Excerpt from the *Memorandum of the visit by Dr Otto Neurath to the Borough of Bilston, July 24, 1945.*

On the invitation of the Bilston Borough Council, Dr Otto Neurath paid a visit to Bilston. A councillor and the Town Clerk outlined the problems. There was a certain amount of concern about the removal of people from highly unsanitary conditions into new houses of modern design. There was a fear that the bathroom might be converted into the coal cellar, also that the disinfection officer would very shortly be fully occupied removing bed bugs from the new houses. It was also felt that some scheme of public re-education might produce communities of good tenants in clean, happy, and healthy homes. Dr Neurath was given the opportunity to inspect a number of the slum areas.

Dr Neurath stated that he wished to make a number of basic points clear: First, the percentage of truly anti-social persons in any country, town, or community is so small as to be almost negligible. Secondly, within reasonable limits, there must be the greatest possible decentralization of administration – administration must go to the people and not vice versa; and, in the third place, all people tend to strive to the utmost of their ability toward a higher standard of living.

He stressed most emphatically that people only put coals in the bathtub for some very good reason, e.g. an inadequate or highly inaccessible fuel storage place, or because the hot water system is so expensive that the hardship involved in using the bath for its proper purpose renders the amenity worthless.

Dr Neurath said that he received a report, in Vienna, that one of the tenants was keeping pigs in the bath. He paid a visit to the house. "Well, Dr Neurath, last year I kept my pigs in the sty provided by the Town Council but there was no heating and the sty was so cold that all my pigs died; so now I keep them in the bath." In such a case a small heating plant installed in the pigsty would enable the bath to be used for its proper purpose.

With reference to the decentralization of administration, Dr Neurath stressed that participation is vital. The whole success of any plan involving the lives of human beings depends upon obtaining the assent, encouragement, and co-operation of those human beings. It would be fatal to the success of a new housing scheme merely to build a number of houses without reference to the people who are going to live in them and then to uproot those people en bloc and place them in the new houses. If some substitute for the slum-dweller's freedom in his slum house can be evolved with his help and cooperation, that substitute will not be felt as control or as a rule to be broken, it will be to the person involved an idea which he has helped to create for his own good, and therefore he will observe it strictly.

Dr Neurath stated that he believed that there was no justification for the statement that one bad tenant in a road or in a block of flats would spread the disease to his neighbors, thereby making them anti-social. On the contrary, a good tenant tends to produce greater social consciousness in his neighbors.

In many towns new houses become dirty within a period of twelve months. It was suggested that the cause of the trouble was the great difficulty experienced in keeping the ordinary board floors clean in the absence of linoleum. Therefore in Vienna parquet floors were installed in the new flats. It was found that almost every one of the flats with these parquet floors was clean. Parquet floors merely need polishing with a mop and this reduces the housewife's burden and encourage her to keep the remainder of the house clean. Dr Neurath also stressed that all services

must be available to the people as a right. If a person has to pay for something, even only a penny, he feels that he has a right to demand it. No discrimination should be made between rich and poor persons.

Special provisions should be made in any plan for four special groups: children, unmarried persons, old people, and slum dwellers. Children must be given the opportunity to make a very large amount of noise and to break something. Playgrounds must be available to all children and they must be in a safe place. Green belts and large playgrounds are not very satisfactory; a small play ground produced by the reduction of garden space between two rows of houses, the backs of which face each other, would be infinitely more satisfactory. The children cannot get out to the road, and the mothers know exactly where they are all the time.

Unmarried persons can be divided into two classes: those who will eventually marry, and those who for some psychological or physiological reason will never marry. If one block of flats or colony is made for unmarried persons, the number of those who are likely to marry will steadily diminish until all the accomodation is taken up by persons who will never marry. Care must be taken to avoid the accidental creation of a lunatic asylum. The best solution is to make the accomodation for unmarried persons an integral part of the structure of the community.

To a certain extent the same rules apply to old persons. No one has a great desire to feel that society has decided to put him aside until such time as he may die. Again, a special building of flats or maisonettes for old people in one particular area lays emphasis on their abnormality. A much more satisfactory state of affairs is to adapt a house which is externally identical with its neighbors, so that it may be suitable for an aged or infirm person to live in. If this is done the old person can take part in the social life of the community, e.g. assisting in a small library or taking care of a neighbor's baby, and therefore he or she will never suffer a feeling of being an unwanted nuisance.

Slum dwellers require special attention and in addition they need more amenities than other people. The first step is to examine the structure of the slum community. To separate families which have interests in each other or to break up little communities which may have formed spontaneously in an area, is as disastrous as moving a family which dislikes flats into flats. The planning of the new community must be undertaken in order to foster the new community spirit, but nothing should be al-

lowed to interfere in any way with the privacy of the family. A number of schemes have proved disastrous because the laundry arrangements did not give the necessary privacy while washing and drying the clothes. People do not like others to know the inadequacies of their wardrobe.

The process of re-education is difficult; lectures and pamphlets have to be used with care; people do not like to have information forced on them. A carefully designed exhibition can impart information while giving pleasure; it should be about something which arouses curiosity. For example, an exhibition which is intended to be part of a campaign for the immunization of children against diphtheria could be presented as an exhibition of the wonders of scientific achievements in the field of medical science. Housing and happiness could form the subject of an exhibition. If people think about what they have seen they will arrive at a conclusion of their own; in this way they may learn how they might achieve a better way of living by their own efforts through participation in their government.

The Town Clerk of Bilston in 1945 (later General Manager of the Development Corporation of the new towns of Peterlee and Aycliffe, County Durham, England), A. V. Williams: impressions of Otto Neurath.

He came into a situation which was overloaded with statistics, survey methods, and tabulations – a very large man whose compassion and charity were almost palpable. He was most adept in reducing the complex to a state of understanding in the mind of the listener, and this he did with no trace of condescension. When he was shown the surveys and the proposed developments to restore a derelict town like Bilston to some degree of dignity and order, he praised the endeavour yet left his collaborators in no doubt that the important thing was that the people for whom the improvement was sought should themselves understand and participate in the work of improvement. He made one believe in the dignity of human beings. Clearly and quickly he saw how dry-as-dust policy could be presented in a visually exciting form which could stir people out of the lethargy and wantlessness of spiritual poverty. One could readily concede that he was a European in the great tradition and if he had lived in another age it would certainly have been as a leading empiricist of the popular Renaissance with a fierce belief in the human present.

When he came to us in Bilston we had had a surfeit of little men embracing brave ideas. But in him there was no contempt; he made us feel that the pursuit of beauty and happiness could be achieved by the common man. He had a passion for the exact and a passion for the actual which he unearthed by exhaustive questioning, and, in demonstrating in a practical way these two strands of his thought and work, he educated others.

After moving away from Local Government into the development of new towns, the writer's memory of him is still alive and rewarding. Having met a man like Neurath one is very chary of the pompous and the phony in the field of planning. His capacity to adjust the desirable to the practicable was an achievement which inspired and instructed the administrator who, under his influence, came to know and feel that plans were of no use unless people could participate in them and be happy with them. If one were to consider what idea he most successfully imparted which has been interpreted into practical development in the new towns with which the writer is now concerned, it must surely be the need to understand the organization of architectural space – not as a visual concept but as a practical means of expression to serve human beings of all ages in their daily needs.

20. MARIE NEURATH: OTTO'S LAST DAY, 22ND DECEMBER 1945

The day before had been a very busy day for Otto in London. He had a good long sleep and in the morning, still in bed, he read in Moebius' book on Goethe's medical biography. He told me about the many illnesses Goethe had and compared our lives with his and stressed how lucky we were never to need a doctor. After breakfast we decided to do our last Christmas shopping at Blackwell's, the big bookshop. In the afternoon Mr Hung, the Chinese philosopher, came to work with Otto on a publication about Schlick. In the evening we were invited to visit friends who lived within walking distance. We had a nice supper and vivid talks. The conversation was much more personal and relaxed than it had ever been with these friends. It started with some remarks about 'happiness' – an article on Otto had just appeared in the *News Chronicle* entitled 'Man with a Load of Happiness' in which he was called a 'sociologist of happiness'. "What does happiness mean? I can tell you what

I mean by happiness. If Godfather would come to me and say, 'dear Otto, I make you an offer. As you are living now on your hill, with your books and your work and your wife, you can live for ever and ever, but you will never be more prosperous than you are now – will you accept?' I would answer, 'Yes, dear Godfather, I gladly accept.'"

We walked quietly home, nothing hurrying us. The hill is rather steep, and we took our time. We were looking forward to two days entirely for ourselves. When I went into the study to get the newspaper, Otto came in too, and sat down at his desk. Looking over the letters he had written in the afternoon, he gave me one of them to read to him – it would make me laugh. It was in verses based on Goethe's Iphigenie. When I hesitated at a certain point which was not quite clear to me, he said, "so heisst es in der Iphigenie". When I read on I heard him laugh – but it sounded strange and I looked up. His head lay on the desk before him. His hand had not yet touched the volume of Goethe that lay to his left. There was no more answer, no pressure from his fingers. The doctor who came had never seen him alive.

REFERENCES

[1] [His brother was his junior by six years; that is why Otto's childhood was similar to that of an only child. His father died when Otto was 18. – Ed.]

[2] [Otto had read most of Kant and other philosophers when he still enjoyed playing with tin soldiers. – Ed.]

[3] [Otto went to Klosterneuburg where Anna lived. I think they married about this time. He *was* a hypochondriac at that time. But one day he decided not to give it another thought and his complaints vanished. (M.N.)]

[4] [Note: I got in touch with Dr Neumann through a common friend, an architect. They had spent an evening together in Florence in Dr Neumann's home, and these old memories came up about this unforgettable man Otto. "I have lost track of him", said Neumann, "I wish I knew what has become of him." "I think I can find that out for you", our friend said, at that time only suspecting that the husband I had lost (whom he had never seen) and the hero of these stories were one and the same person. Dr Neumann came to see me in 1961 and has always urged me to get on with this book. (M.N.)]

[5] [I feel something more should be said here. Olga had lost her eyesight in 1904, when she was 22, before she had finished her studies. When Otto and Anna returned from Berlin to Vienna, they found her deeply depressed, leading a useless life as a well-looked-after member of a kind and wealthy family, listening to gramophone records, unable to do anything she really wanted to do. Otto soon saw what was wrong and realized that the only way to help her was to give her a difficult task. He organized a strict routine according to which all her friends had to read to her what she needed to finish her studies and get her degree. And she succeeded; besides intelligence she had an extraordinary memory. At this time Otto and Olga wrote together the articles on

logic (# 11, 13, and 15 in the bibliography). Marriage to Otto was another challenge which she wonderfully met, doing shopping and cooking as well as she could, relying on his cooperation and tolerance, sharing his interests, going through everything he wrote with him.

I should like to add this. Nobody knows better than I how loyal Otto was to each of his wives; conflict or competition between these loyalties was non-existent. Anna would have understood and approved. (Of Olga I know from what she said to me on her death-bed.) (M.N.)]

[6] [When I first met Otto it was at the time of his estrangement from Wolfgang Schumann, though this did not affect his great friendship with Eva Schumann. Still, it was very clear to me how much these two persons meant to Otto for reasons which are only in between Wolfgang's lines. They gave him their unsolicited friendship, freely and from their full heart. He had not believed, up to then, that he could be liked or loved for his own sake. This was hard to realize when I met him. Still, like himself, both Anna and Olga had been 'outsiders' of society: Anna, a Polish Jew, very shy and lonely when they first met; Olga, in active opposition to middle-class conventions (for instance, in the way she dressed and smoked), and later shut off from so much of social life through her blindness.

To experience friendship as Otto did in the home of the Schumanns, was like throwing open the shutters of a window to let sunshine in. Friendship remained a vital part of his experience. In his opinion, inclination toward friendship was even an essential trait in a person's character. I remember this very well when we produced together, for fun, 'profiles of character' of the persons we knew, in the same manner in which 'profiles of societies' are shown in *Modern Man in the Making*. (M.N.)]

[7] [Bibl. Nr. 116 – Ed.]

[8] [See Chapter 5 below. – Ed.]

[9] [This was the famous but nearly anonymous novelist, B. Traven, author of *The Treasure of Sierra Madre* and other works. He lived in Mexico. Recently a number of writers have 'discovered' his identity and his radical early days. See, e.g., the American magazine *Ramparts* for August 1967. That Otto Neurath knew the pen-name 'Traven' when he wrote the above in 1920 seems surprising.–R.S.C.]

[10] [Immediately after his return from the GESOLEI Otto took scissors and razor blade. Both Olga and I were with him when the beard disappeared for good. He told us: "I was in a great gathering of hundreds of people, and I noticed that only one other man had a beard, and he was a forester. Then and there I decided that the beard must go." That it was Niekisch who had opened his eyes, I had forgotten. (M.N.)]

[11] [See reference 5, based on M.N.'s recollections of what Olga and Otto told her.]

[12] [In the later twenties the Neuraths gave up this romantic home and applied for a new council flat; that was when a medical report gave concern about the son's, Paul's, health. This time, carpenters made the new shelves; there was a kitchen, a separate bedroom, and a bathroom was installed. This place was, however, much less 'unforgettable'. (M.N.)]

[13] ["'Man kann das nicht so ohne weiteres sagen". – "... und was ist *mit* weiteres?"]

[14] [*Handwörterbuch der Staatswissenschaften*, V, 1923, article by Götz Briefs, 'Kriegswirtschaftslehre und Kriegswirtschaftspolitik'. See also *Handwörterbuch der Sozialwissenschaften*, article by Rolf Gruner, 'Neurath, Otto' (1959), and article by Werner Gebauer, 'Kriegswirtschaft' (1961); both confirm Neurath as originator of name and study of war economy. – M.N.]

[15] [His mother's grandfathers].

[16] [Österreichischer Verband für Siedlungs- und Kleingartenwesen.]
[17] [From *The Philosophy of Rudolf Carnap*, ed. P. A. Schilpp, pp. 22ff (La Salle, Illinois, Open Court and London, Cambridge University Press, 1963).]
[18] [In addition, Otto was, I recall, very sceptical whether a professor of mathematics was especially equipped to notice and find out tricks; he therefore feared that Hans Hahn, by his mere presence, might lend support to a rather shaky affair. – (M.N.)]
[19] [See Otto Neurath, 'Wege der wissenschaftlichen Weltauffassung'. *Erkenntnis* **1**, 1930; (Bibl. Nr. 187):

The multivocal character of the mode of thought, whether it arises from ignorance or from the nature of the case, can in the end be overcome only by the univocal character of action, that is of a decision. That one decides for a certain conception, or prefers a certain set of possibilities, cannot be grounded in logic.

To become aware in this way of the narrowness and limitation of knowledge is decisive for a scientific view of the world, since otherwise there is the danger that through the postulate of strict determinism one creates a new idol, which would take the place of the old a priori, of the infinite and of the deity. Where previously stood priest or philosopher, would stand the professor. We must keep away from such precipitate postulates. What we pronounce about things must be said with caution: we find chaos and order and must determine empirically, with what measure of order in our concept formation we can make do in view of the conditions.

Our thinking is a tool, it depends on social and historical conditions. One should never forget this. We cannot at once play the parts of accuser and accused and moreover assume the role of the judge. Our present thinking we set over against past thinking, but we can never judge about both of them from an external point. The testing of statements by means of actual processes is itself part of our method.

The means of expression, our rich language and script we owe to certain historical preconditions. A people with a conceptual script (like the Chinese for instance) has difficulties in creating a freely mobile symbolism; on the other hand it runs less easily into the danger of talking philosophical nonsense. What great insurance it is that everyone, as in mathematics, can write and read only books that he understands at least halfway! In a people with an alphabet, with uninhibited word formation, tongue threshing ('glossurgy' according to Stöhr) often produces philosophic problems. Lichtenberg said "always things, no words! The world can move away and words stand still." Problems of 'being' and 'being-so' are so much conditioned by language, that they cannot properly be rendered in Arabic which is such a rich language.

Letters as signs without conceptual meaning are very appropriate for a strict scientific symbolism. One combines signs whose meaning can be arbitrarily defined. Already the Indians with their language and script which are akin to ours are said to have had a kind of symbolic grammar.

The modern scientific view of the world owes its successes partly to the new symbolism, which can be used for purifying language. A scientific view of the world presupposes general terms. A people with let us say sixty words for cows, according to colour, age, distance from the speaker at any moment and so on, yields few preconditions for a scientific view of the world. Here again it seems to be true that the symbolism which is most fruitful for grasping the concrete had to have a very unconcrete historical past. Thus we are tied by our historical situation.]
[20] Neurath made frequent interjections, 'metaphysics!', during the Circle's reading and discussion of Wittgenstein's *Tractatus*, to the irritation of Moritz Schlick who finally told him he was interrupting the proceedings too much. Hans Hahn, as conciliator,

suggested to Neurath just to say 'M' instead. After much humming – so C. G. Hempel was later told – Neurath made another suggestion to Schlick: "I think it will save time and trouble if I say 'non-M' every time the group is *not* talking metaphysics" – Ed.]

[21] [Translated as chapter 9 below – Ed.]

[22] Cp. my 'Logic of Scientific Discovery', pp. 95, 96, 97, 262; 'The Poverty of Historicism', p. 103; 'Conjectures and Refutations', pp. 40, 265, 267–269, 270, 274, 277, 280.

[23] [Several main sections are translated below as Chapter 8 – Ed.]

[24] [Died in 1966. See Volume Two of *Boston Studies in the Philosophy of Science*, (New York, 1965) dedicated to Professor Frank. The Institute then had its office at the Minnesota Center for the Philosophy of Science, where its President, Herbert Feigl, was Director. In 1973 the Institute was dissolved and its assets and its hopes were accepted as part of the Philosophy of Science Association.–R.S.C.]