

## 2. Natural versus social sciences: on understanding in economics\*

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Verstehen ist der ursprüngliche Seinscharakter des menschlichen Lebens selber.

(Gadamer 1990, p. 264, 1989, p. 259)

Half a century ago, Ludwig von Mises concluded an essay with a title very similar to the present one by addressing the proponents of mathematical economics thus: ‘If it may some day be necessary to reform economic theory radically this change will not take its direction along the lines suggested by the present critics. The objections of these are thoroughly refuted forever’ (1942, p. 253).<sup>1</sup> Mises’s first statement was factually wrong; this does not mean, however, that the second one was incorrect as well.

Indeed, it seems to me that the problem of the current mainstream, mathematical, usually neoclassical approach to economics<sup>2</sup> is two-fold. It is flawed both practically and theoretically: practically because it does not deliver, theoretically because it rests on premises that are problematic at best, and extrapolates from them by equally questionable means. The argument by its protagonists has been to excuse practical problems by pointing to theoretical truth-value, and theoretical ones by pointing to practical success.

This chapter concentrates on the theoretical problems. It rests on the assumption, rather than tries to demonstrate, that mathematical economics does not deliver; if one feels that it does, then one need not read on. But of course the theoretical problems have a practical connection (see Kant 1992, pp. 23–5), because the purpose of pursuing economic scholarship is not to create an aesthetically pleasing theoretical system, but rather to say something meaningful and consequential, directly or indirectly, about reality.

Therefore I should first state that the premise of this chapter is that this is possible. (This is by no means a given; were the topic focused on the humanities side of economics, where one would have, for example, to deal with the linguistic turn and occasionally even yet with postmodernism, one

could not dismiss this point so quickly.) Thus, truth is defined here as congruence with reality, and reality as all that is the case rather than all that exists, including options and myths *as* options and myths. This means that ‘the world is significantly stratified independently of our interpretations of it’ (Eagleton 1996, p. 35), but that our perceptions enter into it and become part of the world.

This truth may be hidden and difficult if not impossible to ascertain, but if one has a concept or an idea one can, as Xenophanes says, ‘indeed accept this assumingly, as alike the real’ (fragm. B 35). We can act as if we had the truth, as if we were right, so long as we remember that we might be wrong; as Aristotle put it, ‘not only he who is in luck but also he who offers a proof should remember that he is but a man’ (*On the Good*, fragm. 27 in 1886, p. 40; fragm. 1 in 1952, pp. 116–117). In that sense only working hypotheses are possible, but they *are* possible.<sup>3</sup>

The demand put to a theory is therefore that it mirror reality, and the claim is that it can do so. It is recognized that this is exceedingly difficult to do or to prove, but once the truth-connection, the search for the truth, is lost, the connection with reality is too. If a theory does not mirror reality, it is untrue or wrong; if it cannot, it is self-referential. The question in consequence is then whether mathematical economics can and does mirror reality or is at least on the way thither. It is argued here that it neither does nor can mirror reality, nor is it on the way to doing so, at least not sufficiently.

As a caveat, it should be added that in such an essay one must be careful not to knock down a straw man. Indeed, I have the impression that the leading economists of our time would hardly claim, nor did many of their predecessors, any more or less absolute theoretical validity of mathematical economics (which I am very aware is neither defined nor dealt with in any detail here). But general academic discourse leads to, or embodies, exactly this view. And once such a discourse is established it is, for soft-knowledge reasons, very difficult to break – until, if so much Kuhnianism is permitted, the system seems all too wrong.

Finally, the classic purpose of any, and certainly of this, essay is to remind rather than to explain, and it does so not by treating its subject comprehensively but rather by reminding its reader by means of exemplary or indicative thoughts. This chapter uses quotations heavily; that seemed to be necessary because on such a potentially contentious question there appeared to be some safety in borrowed authority. This is especially comforting because the author himself is grappling with the problems at hand and is less decided about them than the following paragraphs, which presumably have a tendency to err on the side of oversharpening their points, might indicate.

## 1. NATURAL VERSUS SOCIAL SCIENCES

If one conceives of the social sciences as of something somehow ‘between’ the natural sciences and the humanities, then economics generally, and certainly the mathematical kind, has a very strong tendency towards the natural sciences side, even a tendency to make economics a natural science. This chapter addresses that orientation.

The difference between natural and social sciences may at first appear trivial: natural sciences deal with objects, social sciences with subjects, that is with human beings. This basic difference would have a decisive impact on the transferability of concepts from one to the other; we will return to this point. But if we look at the two ‘kinds’ of sciences from another perspective, the opposite view may stand out. It is this view which in 1874 the economist, statistician, physics PhD and member of the Historical School Wilhelm Lexis, when assuming his first Chair at the University of Dorpat (now Tartu), in his inaugural address ‘Natural and Social Sciences’ (1903) spelled out as follows:

Right away, a certain analogy is noticeable which exists between the social and the natural sciences . . . The means of realisation for the one as well as for the other class of sciences is supposed to be experience. As the natural sciences are taken to be the specific empirical sciences, the temptation is close at hand to put the social sciences under the guidance of her older sister by presenting to her the tried method of the latter. (p. 235)

Lexis goes on to argue that in the (ideal) end of all natural-scientific explanation there are the differential equations of dynamics, having as variables the coordinates of moved points in time and space: ‘If one envisions these equations in an integrated format, one receives a system of equations through which in any point in time the spatial situation of all moving points is determined’ (p. 239). This ‘world formula’ approach, the ‘inductive concluding towards the future’ (p. 239), is still at the basis of much natural-scientific thinking:

The method of the natural sciences in its ideal execution thus consists of the objective assessment of the phenomena in space and time, its division into basic facts, and the erection of a purely quantitative mathematical scheme for the relations of the phenomena. Is this method applicable to the matter of the social sciences and, if so, is the purely quantitative scheme, which only expresses outside relations, sufficient to embody the totality of our possible experiences in this area? (p. 240)

Lexis says, ‘The answer to the first question is yes; to the second one, no’ (p. 240). In this chapter, it is argued that the answer to both is no. (Cf. Sombart 1967, p. 292.)

## 2. MATHEMATICS

Complaints about the use of mathematics in economics are not rare, although not as frequent as they perhaps should be. Heinrich v. Stackelberg, in the preface to his book that played a key role in the re-mainstreaming and thus mathematizing of German economics during and after the Second World War, says:

It is also stated that mathematics would fake an exactness and rigidity of economic relations which in reality would be flowing and inexact; it would fake necessities of natural-scientific laws where in reality the human will would be able to decide and shape freely . . . This view completely mistakes the role of mathematics in economic theory. How often have experts said that 'more never jumps out of the mathematical pot than has been put in'! Mathematical symbolics change neither the preconditions nor the results of the theoretician, as long as they are conclusive. (Stackelberg 1951, pp. x–xi; 1952, p. xiii)<sup>4</sup>

This is wrong, or at least flawed, in three central points. First, in everyday academic discourse mathematization *is* taken to somehow 'guarantee truth' – it becomes more than a tool, it becomes a safety-foundation of an almost mythical nature (see Kenessey 1995, pp. 304–5). Note that this is usually not claimed explicitly, but very frequently indeed it is tacitly implied.

But this is misleading, as Einstein pointed out: 'As far as the statements of mathematics refer to reality, they are not certain, and as far as they are certain, they do not refer to reality' (Einstein 1970, pp. 119–20).<sup>5</sup> Wittgenstein put it even more clearly: 'All mathematical propositions mean the same thing, namely nothing'.<sup>6</sup> Or, again Einstein: 'mathematics as such is incapable of saying anything about . . . things of reality' (1970, p. 120).<sup>7</sup>

Once just one variable (that is, one symbol for anything) is introduced, the floodgates are opened for definition, representation, conception and language problems, that is, problems of language and philosophy. And this is inevitable, for 'one cannot want to look into the world of language . . . from above. Because there is no position outside of the linguistic world-experience from which the latter itself could possibly become an object' (Gadamer 1990, p. 456; 1989, p. 452). 'The objectivising science thus experiences the linguistic being-formed of the natural world-experience as a source of prejudices' (1990, p. 457; 1989, p. 453).<sup>8</sup> And this means that even the current highly sophisticated and complex ventures into new 'forms' of mathematics that try to encapsulate uncertainties and variabilities fall prey to this point, because they still try to 'count in' the larger paradigm which, however, sets the framework.

Second, and this is even more frequently overlooked, the mathematical

connection is not, as Stackelberg says, simply a logical one. Although the mathematics of economics Stackelberg refers to is quite different from that of Lexis's day, let alone that of today, Lexis makes a point which is still valid when he explains:

Scientific thinking . . . consists in the connecting of terms according to certain general basic relations. These connections at first only have [a] logical significance. However, as every empirical science wants to recognise the real connection of the phenomena which are in front of it, at a certain point it has to give to the merely logical connections also a real significance for the relations of the things themselves. (1903, p. 236)

Therefore, mathematics as a connection of the objects under investigation does not add certainty to the statement, but it might easily be mistaken for a real connection between the objects. (See also v. Mises 1942, pp. 243–5.)

The third point, linked to the question of objects and how one sees them, is that the mathematical connection invariably tempts its disciples into the abstraction and definition of the objects under review in the form of a clear-cut determinedness:

The scientific concepts are idealisations; they are derived from experience obtained by refined experimental tools, and are precisely defined through axioms and definitions. Only through these precise definitions is it possible to connect the concepts with a mathematical scheme and to derive mathematically the infinite variety of possible phenomena in this field. But through this process of idealisation and precise definition the immediate connection with reality is lost. (Heisenberg 1958, p. 171)

### 3. PHYSICS

The second major cause of this problem is the scientifically illegitimate use in another sphere of natural science concepts, which have worked well in the fields in which they were developed, by people who have 'excessive faith in laws and methods derived from alien fields, mostly from the natural sciences, and apply them with great confidence and somewhat mechanically' (Berlin 1996, p. 51; see also p. 50 and Knight 1935, p. 147). But are these natural science fields really alien to the social science ones? They are not if one can treat human beings as objects to begin with – in other words, if one is a positivist:

The characteristic theses of positivism are that science is the only valid knowledge and facts the only possible objects of knowledge; that philosophy does not possess a method different from science; and that the task of philosophy is to

find the general principles common to all the sciences and to use these principles as guides to human conduct and as the basis of social organisation. Positivism, consequently, denies the existence or intelligibility of forces or substances that go beyond facts and the laws ascertained by science. (Abbagnano 1967, p. 414)

This handy view is still to be found in social science faculty lounges and in social science journals, but it is recognized as wrong even on its own principles and by its own protagonists in the natural sciences. Because it seems that this fact has not yet been fully grasped in the social sciences, three decisive fallacies of this approach will briefly be outlined.

First, to physicists, this kind of physics is dead. One of physics' insights during the last 75 years was 'that even such fundamental concepts as space and time could be changed and in fact must be changed on the account of new experience' (Heisenberg 1958, p. 170):

Coming back now to the contributions of modern physics, one may say that the most important change brought about by its results consists in the dissolution of this rigid frame of concepts of the nineteenth century. Of course many attempts had been made before to get away from this rigid frame which seemed obviously too narrow for an understanding of the essential parts of reality. But it had not been possible to see what could be wrong with the fundamental concepts like matter, space, time and causality that had been so extremely successful in the history of science. Only experimental research itself . . . and its mathematical interpretation, provided the basis for a critical analysis – or, one may say, enforced the critical analysis – of these concepts, and finally resulted in the dissolution of the rigid frame. (Heisenberg 1958, p. 170)

Second, philosophically positivism rests on an exceedingly naive view of determinacy. This is best summed up by Timothy Kautz in his important study of Ernst Cassirer, in the chapter on Cassirer's 1939 argument against the 'first emotivist', Axel Hägerström, who claimed that 'reality means the same as determinedness', and that 'determinedness only exists in those sciences which determine events or things in space and time' (Kautz 1990, p. 209). But 'determinedness is a result of an interaction, or a sum of interactions, which come into existence, or are kept, in a matrix of judgement. "Determinedness" in the sciences is thus precisely not a simple situation or a simple, given intuition but rather the result of (symbolic) negotiations [*Vermittlungen*]' (p. 213). 'And determinedness never derives solely from the "things" in space and time, just *because* they are in space and time: an apparent objectivity in the imagined placement of every thing in a space–time system of coordinates is not a *sufficient* description of the world because it is precisely the kind of relation that remains undetermined' (p. 214).<sup>9</sup>

Third, there is the profound hermeneutic critique, pointing to the circu-

lar reasoning of positivism and to the subsidiarity of science to understanding:

But is it really so that [the world of physics] is a world of the being-as-such, which leaves all *Daseinsrelativität* behind and whose realisation might be called an absolute science? Is not already the concept of an 'absolute thing' a wooden iron? Neither the biological nor the physical universe can in truth deny the *Daseinsrelativität* which belongs to it. Physics and biology have insofar the same ontological horizon which, as sciences, they cannot cross at all. They recognise what is, and, as Kant has demonstrated, this means how it is given in space and time and how it is the subject of experience. This defines outright the progress of realisation which is achieved in the sciences. The world of physics, too, cannot at all want to be the whole of what is. Even a world equation which would display all that is, so that even the observer of the system would appear in the equations of the system, would still require the physicist, who as the calculating one is not the calculated. A physics which would calculate itself and would be its own calculation would remain a contradiction in itself . . . The being-as-such upon which its research is focused, be this physics or biology, is relative towards the *Seinssetzung* situated in its research program [*Fragestellung*]. Beyond that, there is not the slightest reason to give credit to the claim of physics that it could realise the being-as-such. As science, the one as well as the other has its object-area pre-designed, the realisation of which signifies its mastery. (Gadamer 1990, pp. 455–6; 1989, pp. 451–2)

#### 4. QUANTITATIVE VERSUS QUALITATIVE

To sum up, the problem with quantitative modelling is not its abuse and possible mistakes (so Spengler 1961, p. 274), but the 'thing in itself'. This is not to argue for a romanticist thrust against measuring and calculation generally, which it would be silly to propose for economics. As Isaiah Berlin has stated:

whatever can be isolated, looked at, inspected, should be. We need not be obscurantist . . . Whatever can be illuminated, made articulate, incorporated in a proper science, should of course be so . . . [The] argument is only that not everything, in practice, can be – indeed that a great deal cannot be – grasped by the [natural] sciences. (Berlin 1996, p. 48)<sup>10</sup>

The basis of natural science however, its ideal, as Lexis puts it and as has been mentioned previously, is in the end 'the purely mathematical concept of its subject in space and time, through which the *quality* of the phenomena is dissolved in *quantitative* determinations' (Lexis 1903, p. 238). This is legitimate if one follows positivism as explained, based on outdated physics, and in this context most strongly stated by Ernst Mach: '*quantitative* investigation is only a *particularly simple case of the qualitative one*'

(1926, p. 322). But, as we have seen, this is not true. Try as we might, ‘the experience of the social-historical world cannot be lifted up to science by the inductive process of the natural sciences’ (Gadamer 1990, p. 10; 1989, p. 4):<sup>11</sup>

Socrates the Younger: ‘This is correct; only what does now follow?’

The Stranger: ‘Obviously, we will now divide the art of measuring into two parts, according to what has been explained: one part in which we put all arts which measure numbers, lengths, widths, depths and speed against their contrary; as the other one all those who do it against the appropriate and decent and convenient and proper and all which has its place in the middle between two extreme ends.’

Socrates the Younger: ‘Very great is each of these segments, and very different one from the other.’ (Plato, *Politikos*, 284e; see 283e–285c)

## 5. THE QUANTITATIVE PROPENSITY

One might at this point ask what led to the use of quantitative methods in economics. According to Spengler, it was ‘the state of mathematics and statistics, the degree of acquaintance of economic writers with quantitative methods, the cultural *Weltanschauung*, the example of other sciences, the availability of data, and the role of the state in economic affairs’ (1961, p. 261). But that is only part of the answer.

The rise of numerical thinking and quantification is perhaps put best by Ernst Mach, who traces it to something like a need and natural, biological necessity of the human species and the development of society (Mach 1926). For economists, this is a particularly tempting approach because their field is quantitative by nature. Indeed, the economic world caused mathematics to develop, rather than the other way round: ‘Traffic and trade, buying and selling *demand* the development of arithmetic’ (p. 327). Mindsets are important, and those who choose economics as their field usually have a quantitative inclination to begin with. And there is a tendency for those who do not to be institutionally screened out.

Further, although well into the twentieth century natural science was usually, depending on the country, less prestigious than the humanities, today there is a celebrated inferiority complex towards ‘lab coats’: in an age dominated by the truth-claim of science, it is nice to be on the winning side. This also has something to do with the (at least apparent) decline of the humanities into ‘*Laber- und Orchideenfächer*’, with the obvious *Mumpitz* of many contemporary theories, with the ‘Czech cartoon’ effect (that is, gifted people fleeing from politically charged and thus dangerous fields towards neutral areas), and with raging unemployment and thus the declining pres-



tige of the entire humanities side (and, admittedly, the social sciences except economics as well).

In other words, if we believe at all in human inclinations towards different ways and approaches, then it is easy to see why those who end up with a degree in economics prefer the quantitative path. If ‘science is what recognised scientists recognise as science’ (Marquard 1989, p. 199), this is not a problem. But if we want to avoid self-referentiality and instead look for the truth, then we need to follow Plato’s division of the two kinds of measuring, and we need to accept that qualitative is not a complex form of quantitative, but rather something else.

## 6. NORMATIVITY

There are two interrelated possibilities for proceeding from here. One, which will be discussed later, is to search for a method for economics that takes this problem into account. The second possibility is normative reasoning, and it will be very briefly addressed here, less because of its own vitally important ramifications, which I hope soon to address elsewhere, but because of its epistemological ones.

In the case of economics, dealing as it does with the human sphere (see v. Mises 1942, p. 245), there is always at the basis, ‘explicit or implicit, a concept of the human being’ (Baumgardt 1990, p. 112). And neoclassical economics’ concept, the *homo oeconomicus*, is problematic at best; Baumgardt flatly states that ‘from today’s perspective, it must be seen as an aberration of the human’ (p. 113).

This is significant for the truth-value of neoclassical economics, for if human beings simply do not behave according to the specifications of the model, then the model does not have predictive capability.<sup>12</sup> The ‘egotism of the masses’ is not calculable; ‘there is a strong irrational remainder, caused by indolence, custom, prejudice, which as a decisive factor contributes to the shaping of the economic general circumstances; but also more ideal motives intervene in fact in the clockwork of economic personal profit, in order to disturb the Ricardian circle’ (Lexis 1903, p. 245).

This is, to repeat, precisely the case not only with individuals but also with larger groups. Dealing with human beings means that statistical likelihood is ephemeral because humans can decide quite in contrast to the statistical propensity of a group in which they are numbered (cf. Oettingen 1868), any true decision-making situations forming ‘neutral threshold-situations, zero-points of indifference, so to say’ (Jonas 1987b, p. 63), in which, regardless of all previous experience, things can go either way.

## 7. VERSTEHEN

‘To demand or preach mechanical precision, even in principle, in a field incapable of it is to be blind and to mislead others’ (Berlin 1996, p. 53). But do we, normativity aside, have another chance to do economic scholarship? Fortunately, we do: it is the concept of understanding, *Verstehen*.

To say it right away: to understand is not less or less scientific than to assess from the outside, as in the natural science world; but it is more or more so. The great economist of the Younger Historical School, Werner Sombart, whom we will follow as an example of an understanding approach to economics, has put this extremely well, in terms quite similar to the thesis of Gadamer’s *Wahrheit und Methode* (1990, trans. 1989): the natural sciences’ successful attempt to monopolize the truth is a reversal of the real situation. “‘True’ realisation reaches as far as we “understand”, that is, it is limited to the area of culture and fails towards nature’ (Sombart 1923, p. 9). As Nicolai Hartmann put it, “‘Understood’ can only be “meaning”, as well as all that which is related to it: value, goal, significance’ (Hartmann 1951, p. 33; see also pp. 64–76). And Sombart: ‘Realisation that wants to arrive at the being of nature, is metaphysics’ (1929, p. 75; see 1967, pp. 204–5). This does not mean, of course, that *Verstehen* inevitably leads to the truth, but it means that there is a chance that it does, or might.

This means that although we cannot talk very meaningfully about things in biology and physics, the situation in the social sciences ‘is completely different: here, our realisation is capable of immediate penetration of the inner causal connection of the outer phenomena, and we would sacrifice a central part of our possible knowledge if we gave up the question for this causal connection’ (Lexis 1903, pp. 242–3; see also v. Mises 1942, p. 246).<sup>13</sup>

Today we would call this the hermeneutic approach. We might be more cautious about the penetration being immediately possible, perhaps. In addition hermeneutics has become so fashionable that it has a weasel connotation;<sup>14</sup> it is used here in the very classical sense of the Schleiermacher–Dilthey–Gadamer triad (which of course denotes fundamentally different ways of *Verstehen*). And especially in economics, forays into economic hermeneutics have not been too successful either.

This is one of the reasons why Werner Sombart’s approach is used here, although this presents several problems as well, such as Sombart’s unpopularity in post-Second World War economic theory, his political reputation and the peculiarly Platonism-based and somewhat simplistic format of his concept of understanding. (See Drechsler 1996, pp. 287–9.)

Why, then, Sombart? Because he makes the case for *verstehende National-ökonomie* particularly lucid and he is explicitly hermeneutic. (See Sombart 1929, p. 76; 1967, pp. 157–9; cf. Koslowski 1996, p. 300.) Sombart developed

this approach at length in his book *Die drei Nationalökonomien* (1967, esp. pp. 140–276) and concerning sociology and the social sciences generally in three short and very accessible essays (1923, 1929 and 1936). Whether one traces Sombart's understanding back to Heinrich Rickert, Wilhelm Windelband, Wilhelm Dilthey or even Max Weber, or whether Gustav von Schmoller would have been the more obvious example (all of which, incidentally, could have been employed very profitably indeed for this chapter), is not really important – in our context one must instead ask, 'Is it true or isn't it?'<sup>15</sup>

There are, according to Sombart, two 'truths': '*All society is spirit, and all spirit is society*' (1936, p. 115). Thus, '*all humanities are social sciences*' (1936, p. 117; 1967, p. 175).<sup>16</sup> Understanding is immanent realization, while the realization of nature is transcendent (1929, p. 75; 1967, p. 197). Based on these ideas, Sombart realizes that one can only understand what one already has: 'Schleiermacher expressed the same when he says: "Where there is no community, there cannot be a connecting point for understanding, either"' (1929, p. 80; see 1967, p. 200).

Sombart sees the difference between the two ways of looking at society in 'their different positions towards the two central concepts of our science: the one of Understanding and the one of Law' (1923, pp. 8–9). The cultural sciences – that is, the humanities – try to realize from the inside to the outside (that is, to understand), whereas the sciences can only '*begreifen*',<sup>17</sup> that is, only the other way round (1923, p. 9; 1967, p. 193).

'But what does it mean to understand? It means first, that we gain insight into the meaning. What is now meaning? As much as connection. But this is not enough . . . "Meaning" means connection within a spiritual whole, within an idea' (1929, p. 78; see 1967, p. 197). This is important because 'in the spirit-world surely there are *only* wholes . . . which then . . . will take on very different forms' (1929, pp. 78–9).

The superiority of this kind of realization stems from its immanence, because the subject and object of realization are identical, as they are both spirit (1929, p. 79; see 1967, p. 197).<sup>18</sup> 'Culture is objectivised spirit . . . subjective or human spirit is the specific capability of the human being to behold ideas, to set goals, to give norms, the specific capability of the spiritual person which, as far as we know, is only existent in the human person' (1929, p. 79).

This anticipates Gadamer's famous dictum, 'To recognise one's own in the strange, to become at home in it, is the basic movement of the spirit, whose being is only the return to itself from the being different' (Gadamer 1990, pp. 19–20 [1989, p. 14]).<sup>19</sup> Hans Jonas expressed it thus:

As far as the so-called ‘understanding’ is concerned, the mode of realisation of the humanities, it is evident that a ‘personal experiencing’, as a feeling-into the matter which in itself is a result of experience, belongs in the realisation inseparably from the beginning to the end, that is, until its result, and that it permeates the entire exegesis. (Jonas 1987a, p. 9)

‘Because subject here meets with subject, which even in the most extreme strangeness of historical distance remains a human one and thus one accessible to us, if infinitely interpretable’ (p. 9).<sup>20</sup>

How to employ this for economics? Frank Knight’s recommendation seems to me well taken:

The first step to getting out of this slough, we suggest, is to recognise that man’s relations with his fellow man are on a totally different footing from his relations with the objects of physical nature and to give up, except within recognised and rather narrow limits, the naïve project of carrying over a technique which has been successful in the one set of problems and using it to solve another set of a categorically different kind. (Knight 1935, p. 147)

I cannot say how to go on in concrete economic research terms, especially in light of the practical tasks economics has to fulfil. But this is no reason not to point ‘to the deficits [of the “*status praesens*”] and to initiate the respective strategies’ (Kolb 1994, p. 195), especially as it seems possible to take the way of *Verstehen*, be it Sombart’s variant or not, while the other way does not appear to be a valid option.

## CONCLUSION

This, finally, leads us to a look at normativity again. Its reinclusion into economics would be a return to the Greeks, at least in perspective, a basic focus on ‘that which is lucrative and that which is conducive’ (*Einträgliches und Zuträgliches*); Baumgardt 1990, p. 113). And here understanding and normativity are linked in such a way as to produce a possible, meaningful, truth-focused approach: ‘The Aristotelian program of a practical science seems . . . to be the only science-theoretical model according to which the “understanding” sciences can be thought’ (Gadamer 1977, p. 87 [1993, p. 499; 1985, p. 183]).<sup>21</sup> Therefore the problem of the two kinds of measuring which is at the heart of this essay – the reminder that the qualitative is not a complex form of the quantitative, but *etwas ganz anderes* – might for the social sciences, where human beings are concerned, be solved by Aristotle himself, who says that ‘the good is the most accurate measure of all things’ (*Politikos*, fragm. 79 in 1886, p. 81; fragm. 2 in 1952, p. 68).

## NOTES

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I should point out, however, that the present chapter only presents my first thoughts on the subject, now (2002) half a decade old. During these five years, I have dealt with the matter more thoroughly, and several points and contentions I would now rephrase or argue quite differently, or even retract. For the most recent development of my argument in writing – which is still not complete itself, either – see Dreschler 2000b.

This present chapter includes some ideas and phrases from Dreschler 2000a.

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1. I have correlated the following words: *Ansichsein* as 'being-as-such', *Geistes-* and *Kulturwissenschaften* as 'humanities', *Naturwissenschaften* (and *Wissenschaften*, when it clearly refers only to *Naturwissenschaften*) as 'natural sciences', *Sozial-* and *Gesellschaftswissenschaften* as 'social sciences', *Wissenschaft* as 'science' and *Forschung* as 'research'. Also, *anschaulich* as 'visible', *Beziehung* as 'relation', *Erkenntnis* as 'realization', *schlüssig* as 'concludent', *Sinn* as 'meaning', *sprachlich* as 'linguistic', *Zusammenhang* as 'connection' and *Zweck* as 'purpose' (always with derivatives). If the reference is to non-English sources, all translations are mine, but in the cases of Gadamer and v. Stackelberg, I have given the reference to the standard English translation as well (without using it). Particularly short and difficult German quotations have been given in the original language either in the notes or in the main text; so were the Greek ones originally, but – perhaps not insignificantly – the press could not deal with that, in spite of all attempts by the editor. Non-English passages quoted only in the notes have generally not been translated.
2. Mathematical and neoclassical economics are not the same, but in the present context the latter stands and falls with the former to such a degree that the distinction has not been made. Of course, neoclassical economics can be very profitably critiqued from other angles as well.
3. Peter Senn would say that this 'is true for every case that is *not* confirmed by experience. "All human beings grow old and die." This is one of the thousands (millions?) of bits of knowledge accepted as scientific knowledge and without the need of further verification. It is not a working hypothesis in the usual meaning of the words. It is what is commonly called a "fact"' (personal correspondence, 12 May 1995).
4. In German and in full, the quotation reads: 'Ferner wird [gegen die Anwendung der Mathematik in der Nationalökonomie] eingewendet, die Mathematik täusche eine Exaktheit und Starrheit der volkswirtschaftlichen Beziehungen vor, die in Wirklichkeit fließend und unexakt seien; sie täusche naturgesetzliche Notwendigkeiten vor, wo in Wirklichkeit der menschliche Wille frei entscheiden und gestalten könne. Deshalb sei die Anwendung der Mathematik in der Volkswirtschaftslehre abzulehnen. Diese Auffassung verkennt völlig die Rolle der Mathematik in der Wirtschaftstheorie. Wie oft ist schon von sachkundiger Seite hervorgehoben worden, daß "aus dem mathematischen Topf nie

- mehr herauspringt, als in ihn vorher hineingelegt worden ist"! Die mathematische Symbolik verändert weder die Voraussetzungen noch die Folgerungen des Theoretikers, sofern sie schlüssig sind' (Stackelberg 1951, pp. x–xi; 1952, p. xiii).
5. In German: 'Insofern sich die Sätze der Mathematik auf die Wirklichkeit beziehen, sind sie nicht sicher, und insofern sie sicher sind, beziehen sie sich nicht auf die Wirklichkeit' (Einstein 1970, pp. 119–20). Also quoted (and translated almost identically) in v. Mises 1942, p. 252.
  6. Quoted in Heath 1974, p. 25n.5 (as 'the remark attributed to Wittgenstein').
  7. In German and fuller: 'die Mathematik als solche [vermag] weder über Gegenstände der anschaulichen Vorstellung noch über Gegenstände der Wirklichkeit etwas auszusagen' (Einstein 1970, p. 120).
  8. In German: 'Man kann nicht die sprachliche Welt . . . von oben einsehen wollen. Denn es gibt keinen Standort außerhalb der sprachlichen Welterfahrung, von dem her sie selber zum Gegenstand zu werden vermöchte' (Gadamer 1990, p. 456 [1989, p. 452]). 'Die objektivierende Wissenschaft erfährt infolgedessen die sprachliche Geformtheit der natürlichen Welterfahrung als eine Quelle von Vorurteilen' (1990, p. 457 [1989, p. 453]). Of course, prejudices are nothing bad in the Gadamerian universe.
  9. In addition, specifically for the social sciences, Norman Bradburn has emphasized the salient fact that 'whether or not things are viewed as "data" and worthy of being measured, lies in the question being asked, not in the thing itself' (1997, p. 8).
  10. Paracelsus' dictum 'he who heals is right', coined for medicine, is applicable to economic modelling also. The Machian point that the reality of a given hypothesis is of no importance whatsoever, as long as the object under consideration is performing *as if* it were so (see P. Zühlke in Mach 1926a, p. 4), is a strong one. Along these lines, Senn argues that 'there are two ways to judge the "usefulness" of a system, logically and empirically . . . The empirical judgement of "usefulness" is quite separate. It depends, along with other things, mainly on how the system performs and the goals of the evaluator' (personal communication, 12 May 1995). But the assumption of this essay, remember, is that mathematical (and neoclassical) theory does *not* 'deliver'.
  11. In German: 'Die Erfahrung der gesellschaftlich-geschichtlichen Welt läßt sich nicht mit dem induktiven Verfahren der Naturwissenschaften zur Wissenschaft erheben' (Gadamer 1990, p. 10 [1989, p. 4]).
  12. Baumgardt 1990, p. 107: 'Die Realitätsferne der Annahmen beim homo-oeconomicus-Modell und die daher sehr bedingte und auf Extreme beschränkte Aussagekraft des Modells, wird für immer mehr Wirtschaftstheoretiker unbefriedigend. Auch innerhalb der Wirtschaftswissenschaften selbst gibt es deshalb gewichtige Ansätze, die problematisch gewordene Vorstellung vom homo oeconomicus zu korrigieren. Diese Ansätze sind freilich (noch) nicht wirtschaftswissenschaftliches Allgemeingut.'
  13. Lexis (1903, p. 243) continues: 'Das Element der sozialwissenschaftlichen Erscheinungen ist das nach Motiven handelnde menschliche Individuum. Für die Kausalität des menschlichen Individuums aber, für die menschlichen Motive und deren Wirkungen, haben wir vermöge unseres eigenen Bewusstseins ein unmittelbares Verständnis . . . So sind wir also in dem, die menschlichen Dinge mit Rücksicht auf die *Kausalität* und *Wechselwirkung* der sich nach ihrem eigenen Wesen bestimmenden Individuen wissenschaftlich zu betrachten.'
  14. Already in 1977, Gadamer put it this way: 'Many others – especially since hermeneutics has become a fashionable term and every "interpretation" wants to call itself hermeneutics – abuse the word and the thing for which I had taken the floor contrarily in such a way that they see in it a new *Methodenlehre* with which in truth they legitimise methodical unclarity or ideological cloaking' (1977, pp. 80–81; 1993, pp. 494–5 [1985, p. 177]). An excellent sketch of the sophisticated yet realist use of hermeneutics is Kaiser 1997, pp. 58–9.
  15. 'Stimmt es oder stimmt es nicht?' So Julius Ebbinghaus regarding the work of Hermann Cohen, quoted in Orlik 1993, p. 143.
  16. In German: '*alle Gesellschaft ist Geist* und *aller Geist ist Gesellschaft*' (Sombart 1936, p. 115). Thus, '*alle Geisteswissenschaft [ist] Gesellschaftswissenschaft*' (Sombart 1936,

- p. 117). It is important to realize that this is Nicolai Hartmann's, rather than Hegel's, *Geist* (not in the sense that it derives from there, but that it is the same concept). See Hartmann 1949, p. 460, as well as Drechsler 1997, pp. 67–8.
17. Mises (1942) translates *begreifen* as 'conceive', but then the wordplay (the German implies 'to touch with your hands, from the outside') is lost, and I also think 'conceive' means something else even on the abstract level.
  18. Sombart (1967, pp. 197–198n.76, 198) sees a parallel to his own idea of the mode of *Verstehen* as being determined by the concept of immanence in Martin Heidegger's approach in *Sein und Zeit*.
  19. In German: 'Im Fremden das Eigene zu erkennen, in ihm heimisch zu werden, ist die Grundbewegung des Geistes, dessen Sein nur Rückkehr zu sich selbst aus dem Anderssein ist' (Gadamer 1990, pp. 19–20).
  20. In German: 'Was aber speziell das sogenannte "Verstehen" betrifft, die Erkenntnisweise der Geisteswissenschaften, so ist evident, daß dabei das "persönliche Erleben", als Einfühlung in den Gegenstand, der selber ja Niederschlag von Erlebnis ist, in das Erkennen von Anfang bis zu Ende, d.h. bis in sein Ergebnis unzertrennlich hineingehört und die ganze Auslegung durchdringt' (Jonas 1987a, p. 9). 'Denn Subjekt begegnet sich hier mit Subjekt, das auch in der äußersten Fremdheit geschichtlicher Ferne ein menschliches und daher uns zugängliches, jedoch unendlich deutbares bleibt' (p. 9).
  21. In German: 'Das aristotelische Programm einer praktischen Wissenschaft scheint mir das einzige wissenschaftstheoretische Vorbild darzustellen, nach dem die "verstehenden" Wissenschaften gedacht werden können' (Gadamer 1977, p. 87; 1993, p. 499; 1985, p. 183).

## REFERENCES

- Abbagnano, Nicola (1967), 'Positivism', in Paul Edwards (ed.), *The Encyclopedia of Philosophy*, New York and London: Macmillan and Collier Macmillan, vol. 6, pp. 414–19.
- Aristotle (1886), *Aristotelis qui ferebantur librorum fragmenta*, ed. Valentin Rose, Leipzig: Teubner.
- Aristotle (1952), *The Works of Aristotle*, vol. 12, *Select Fragments*, trans. and ed. Sir David Ross, Oxford: Oxford University Press, reprint 1967.
- Baumgardt, Johannes (1990), 'Der Mensch als Homo Oeconomicus – gilt das noch heute? Der Beitrag der Wirtschaftswissenschaften zum Menschenbild der Gegenwart und Zukunft', in Gert Hummel (ed.), *Der Beitrag der Wissenschaften zum gegenwärtigen und zukünftigen Menschenbild*, Bonn: Deutscher Hochschulverband, pp. 97–120.
- Berlin, Isaiah (1996), *The Sense of Reality: Studies in Ideas and Their History*, London: Chatto & Windus.
- Bradburn, Norman (1997), 'Social information, social policy and social science', *ZUMA-Nachrichten*, **40** (May), 7–20.
- Drechsler, Wolfgang (1996), 'The revisiting of Werner Sombart: implications for German sociological thinking and for the German debate about the past', in Jürgen G. Backhaus (ed.), *Werner Sombart (1863–1941): Social Scientist*, Marburg: Metropolis, vol. 3, pp. 287–96.
- Drechsler, Wolfgang (1997), 'On German Geist', *Trames*, **1** (51/46) (1), 67–77.
- Drechsler, Wolfgang (2000a), 'Zu Werner Sombarts Theorie der Soziologie und zu seiner Biographie', in Jürgen Backhaus (ed.), *Werner Sombart: Eine kritische Bestandsaufnahme*, Marburg: Metropolis.

- Drechsler, Wolfgang (2000b), 'On the possibility of quantitative-mathematical social science, chiefly economics: some preliminary considerations', *Journal of Economic Studies*, 27 (4/5), 246–59.
- Eagleton, Terry (1996), *The Illusions of Postmodernism*, Oxford: Blackwell.
- Einstein, Albert (1970 [1921]), 'Geometrie und Erfahrung', in *Mein Weltbild*, Frankfurt/Main: Ullstein, pp. 119–27.
- Gadamer, Hans-Georg (1977), 'Hans-Georg Gadamer', in Ludwig J. Pongratz (ed.), *Philosophie in Selbstdarstellungen*, Hamburg: Meiner, vol. 3, pp. 60–101. Now also in (1993), *Hermeneutik*, vol. 2, *Wahrheit und Methode. Ergänzungen, Register = Gesammelte Werke*, 2nd edn, Tübingen: Mohr/Siebeck, vol. 2, pp. 479–508. Standard English translation [partial]: (1985), 'On the origins of philosophical hermeneutics', in *Philosophical Apprenticeships*, trans. Robert R. Sullivan, Cambridge, MA: MIT Press, pp. 177–93.
- Gadamer, Hans-Georg (1990), *Hermeneutik*, vol. 1, *Wahrheit und Methode: Grundzüge einer philosophischen Hermeneutik*; vol. 1 of *Gesammelte Werke*, 6th edn, Tübingen: Mohr/Siebeck. Standard English translation: (1989), *Truth and Method*, trans. Joel Weinsheimer and Donald G. Marshall, 2nd rev. edn, London: Sheed & Ward.
- Hartmann, Nicolai (1949), 'Nicolai Hartmann', in Werner Ziegenfuß with Gertrud Jung (eds), *Philosophen-Lexikon: Handwörterbuch der Philosophie nach Personen*, Berlin: de Gruyter, vol. 1, pp. 454–71.
- Hartmann, Nicolai (1951), *Teleologisches Denken*, 2nd repr. edn, Berlin: de Gruyter, 1966.
- Heath, Peter (1974), *The Philosopher's Alice*, New York: St. Martin's Press.
- Heisenberg, Werner (1958), *Physics and Philosophy: The Revolution in Modern Science*, London: Allen & Unwin.
- Jonas, Hans (1987a), 'Wissenschaft als persönliches Erlebnis', in *Wissenschaft als persönliches Erlebnis*, Göttingen: Vandenhoeck & Ruprecht, pp. 7–31.
- Jonas, Hans (1987b), 'Im Kampf um die Möglichkeit des Glaubens: Erinnerungen an Rudolf Bultmann und Betrachtungen zum philosophischen Aspekt seines Werkes', in *Wissenschaft als persönliches Erlebnis*, Göttingen: Vandenhoeck & Ruprecht, pp. 47–75.
- Kaiser, Otto (1997), 'Zwischen Interpretation und Überinterpretation: Vom Ethos des Auslegers', *Variations herméneutiques*, 6 (May), 53–70.
- Kant, Immanuel (1992 [1793]), *Über den Gemeinspruch: Das mag in der Theorie richtig sein, taugt aber nicht für die Praxis*, 5th edn, Frankfurt/Main: Klostermann.
- Kautz, Timothy (1990), 'Ernst Cassirer und die Ethik: Eine Studie zur Philosophie der symbolischen Formen', diss. phil., University of Düsseldorf; Darmstadt: Dissertations Druck Darmstadt.
- Kenessey, Zoltan E. (1995), 'The emergence of quantitative thinking about mortality and life expectancy', *International Review of Comparative Public Policy*, 6, 291–311.
- Knight, Frank H. (1935), 'The limitations of scientific method in economics', in *The Ethics of Competition and Other Essays*, 2nd printing, 1951, London: Allen & Unwin, pp. 105–47.
- Kolb, Gerhard (1994), 'Volkswirtschaft als Kulturtheorie – Georg Weippert zum Gedenken', in *Jahrbuch für Philosophie des Forschungsinstituts für Philosophie Hannover*, Vienna: Passagen, vol. 5, pp. 181–97.
- Koslowski, Peter (1996), 'Economic ontology – Cultural philosophy of the



- economy – Business ethics: Sombart as a proponent of a philosophical economics', in Jürgen G. Backhaus (ed.), *Werner Sombart (1863–1941): Social Scientist*, Marburg: Metropolis, vol. 1, pp. 297–301.
- Lexis, Wilhelm (1903 [1874]), 'Naturwissenschaft und Sozialwissenschaft', in *Abhandlungen zur Theorie der Bevölkerungs- und Moralstatistik*, Jena: Gustav Fischer. Reprinted with a preface by Wolfgang Drechsler and with the original 1874 newspaper article from the *Neue Dörpt'sche Zeitung* as University of Tartu Working Paper in Public Administration and Government 97-04.
- Mach, Ernst (1926), 'Zahl und Maß', in *Erkenntnis und Irrtum: Skizzen zur Psychologie der Forschung*, 5th (≈ 4th) edition, reprinted 1980, Darmstadt: Wissenschaftliche Buchgesellschaft, pp. 320–36.
- Marquard, Odo (1989 [1985]), 'Über die Unvermeidlichkeit der Geisteswissenschaften', reprinted in Westdeutsche Rektorenkonferenz (ed.), *Hochschulautonomie, Privileg und Verpflichtung*, Hildesheim: Lax, pp. 193–203.
- Mises, Ludwig [v.] (1942), 'Social science and natural science', *Journal of Social Philosophy and Jurisprudence*, 7 (3), 240–53.
- Oettingen, Alexander v. (1868), *Die Moralstatistik: Inductiver Nachweis der Gesetzmäßigkeit sittlicher Lebensbewegung im Organismus der Menschheit*, vol. 1 of *Die Moralstatistik und die christliche Sittenlehre: Versuch einer Sociaethik auf empirischer Grundlage*, Erlangen: Deichert.
- Orlik, Franz (1993), 'Einige Probleme des Cohenschen Idealismus und die Versuche zu ihrer Bewältigung bei Nicolai Hartmann und Ernst Cassirer', in *Philosophisches Denken – Politisches Wirken: Hermann-Cohen-Kolloquium Marburg 1992*, Hildesheim: Olms, pp. 144–62.
- Sombart, Werner (1923), 'Soziologie: Ein Vorwort', in *Noo-Soziologie*, Berlin: Duncker & Humblot, 1956, pp. 1–12.
- Sombart, Werner (1929), 'Das Verstehen', in *Noo-Soziologie*, Berlin: Duncker & Humblot, 1956, pp. 75–93.
- Sombart, Werner (1936), 'Soziologie: Was sie ist und was sie sein sollte', in *Noo-Soziologie*, Berlin: Duncker & Humblot, 1956, pp. 95–123.
- Sombart, Werner (1967 [1930]), *Die drei Nationalökonomien: Geschichte und System der Lehre von der Wirtschaft*, 2nd (≈ 1st) edition, Berlin: Duncker & Humblot.
- Spengler, Joseph S. (1961), 'On the progress of quantification in economics', *Isis*, 52, pt 2 (168), 258–76.
- Stackelberg, Heinrich v. (1951 [1943]), 'Vorwort zur ersten Auflage', in *Grundlagen der theoretischen Volkswirtschaftslehre*, 2nd edn, Tübingen and Zürich: Mohr/Siebeck and Polygraphischer Verlag, pp. vii–xi. Standard English translation: (1952), 'Preface to the first German edition', in *The Theory of the Market Economy*, trans. Alan T. Peacock, New York: Oxford University Press, pp. ix–xiii.

