

"Worlds and Operations"

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WORLDS AND OPERATIONS

NOTES ON JAKOB MELØE'S ARTICLE

'THE AGENT AND HIS WORLD'¹

When a philosophical or scientific project comes of age, it finds itself possessed of a tradition, and consequently of scope for a display of its classics. If Praxeology is such a project, then Jakob Meløe's article *The Agent and His World* is just such a classic.

It's often no very long step from acquiring a tradition to becoming one. But a project that suffers this transformation stands in risk of losing its character as a project. It then remains only to write the history of the tradition: this is how it all went.

As Praxeology is not just a tale to be told, these notes will not be taking up *The Agent and His World* as the original and radical statement it so patently was within the analytic philosophy of action of the sixties. Nor will they deal with its significance for subsequent praxeological thinking. The aim is rather to enter into a dialogue with Meløe's article — as one praxeologist to another, or as one piece of praxeology to another.

I. THE CONCEPT 'WORLD'

1. Analytical and Hermeneutical Definitions

The Agent and His World begins with this sentence:

We may define a concept *world*, or *our world*, on the basis of our operations in the world, such that to exist in our world is to be connected with our operations in the world, and such that the form of connection gives *the form of existence*.²

The heading together with the first sentence present us with three concepts that are fundamental to all

¹ *The Agent and His World* been published several times. The page numbering in the references below refer to *Praxeology. An Anthology Edited by Gunnar Skirbekk*. Oslo, 1983, where also the present article was first published.

² Meløe, 1983, p. 13.

praxeological thoughts: *agent*, *world* (or *our world*) and *operation*. But these concepts are not defined in the good old analytic way. Not one of them appears as the unknown *definiendum* to the left of an identity sign, with an array of other, and well known, concepts mustered to the right, as the *definiens*. We find ourselves, in fact, in the quite tricky position of not being able to define the basic praxeological terms without sinning against a ground rule of analytic definitional practice, viz. the rule that the term to be defined, and so explained to others, must not be among the terms that we use to define it, or to explain it *with*. If a praxeological term A is defined through the terms B, C, D ..., we shall find, of necessity, that at least one of the terms B, C, D, ..., cannot itself be defined without resort to A. This predicament is not peculiar to praxeology. We may well ask if it doesn't hold for most philosophical work. The fact that so many philosophical treatises open with a row of definitions, with *definienda* and *definiencia* in their proper places, is no evidence that their thinking is of a radically different sort, or that it has been worked out under radically different conditions. The difference may well be just a difference in editing. Be that as it may, the fundamental concepts of praxeology are, each one of them, parts picked out from a whole. It is only by moving around among the different parts, that we can come to grasp the whole that they are parts of, and it is only by grasping the whole, that we can come to grasp each part. Analytic definitional practice must give way to hermeneutic definitional practice. We begin, in style, with the concept *world*.

2. The Concept World in Tradition

Within our philosophical tradition, the different concepts world belong to one or the other of two main types:

a) The *first* concept *world* or *the world* is a concept of all that exists, or it is a concept of that which encompasses all that exists, so that everything that exists, exists *within it*. Not much is usually said about this "encompassing", except, perhaps, that it is not to be taken in a spatial sense. Wittgenstein tells us in the *Tractatus* 1.1, that the world is the sum total of facts, not of things. ("Die Welt ist die Gesamtheit der Tatsachen, nicht der Dinge".) But even if the sum total of facts has a richer structure than the sum total of things, adding up the facts does not produce any more world *order* than adding up the things. That is because a *summation* is not creative of order. Or, if you want to call the sum total of something an order, it is the least ordering of orders.

This concept *world* is probably the youngest one, and apparently the most handy one to many modern philosophers.

b) The concept of an *ordered totality* is fundamental to the *second* concept *world*. A world is simply that which 'has' a world order. It is a *cosmos*. Accordingly, to exist in a world is to be embedded in a world order, and to be embedded in a world order is to have a *place* within that order *as* this or that substance, *as* this or that agent, *as* this or that fact, object, tool or whatever you like.

Now, not every ordered totality of places (or of items and proper places for items) is a world. Of course not. What makes a certain order a world order? What constitutes the *worldhood* of the world order? Answer: A world order is (a) an order to which such and such items belong, in so far as they *are*, and in so far as they are *what* they are. And (b) it is an order encompassing (among others) subjects, like ourselves, which in their very existence necessarily understand themselves as being embedded in that very order.

The conditions (a) and (b) are interdependent. For instance, every natural number has, or is, a place

in the series of natural numbers. Human beings, viz. we ourselves, are not placed in that series. So, if natural numbers maybe said to exist, the series of natural numbers will fulfil condition (a) and not condition (b) for being called a *world order*. But do numbers exist? This well-known philosophical problem concerns (a), but the very discussion *takes place* under the heading of condition (b): It is a discussion of how each number, besides being embedded in the series of numbers, may be said to share a common order with us. Or it is the discussion of how the series of numbers may itself be said to share a common order with us, or to be encompassed by an order that also encompasses us and our practices.

This second concept *world* or *worldhood* is rather close to the oldest philosophical, and even pre-philosophical, concepts. But it is also congenial with Heidegger's reflections on *Welt* and *Weltlichkeit*.³ And I take Meløe's concept *world* to be of the same sort. The point Meløe is making in the very first sentences of his article, is just that tools, implements, materials, operations and we ourselves, as agents, all exist in a world, sharing a common world order. For each such item, to exist is to have its proper place within a proper ordering of such places.

3. The Concept 'Our World'

Meløe's concept *world* is explicitly identified with a concept *our world*. And obviously there is no difference, in so far as any world is an "our world". The term our world is only making explicit something already implied in the term world. To each distinct world there exists a distinct we whose world it is, even if each of us speaks of it as *the* world, and not as *our* world.

On the other hand: each distinct *we* calling something "ours" may be constituted and composed in a number of ways. (Consider who "we" are, when "we" are visiting my parents-in-law tonight, "we" beat the English in football, "we" found today's lecture boring, "we" shall all die, etc.) So even if we's are only found in worlds, it does not follow that we is a we constitutively making a certain world an our world.

4. The Access to a World

And so, to say that the agent exists in, or *has*, a world that (as the heading indicates) is *his*, is not to say, that it is his alone, or that he is alone in it. The point about the agent *his world*, is rather that the agent's place in a world is a good place to begin the work of reconstructing this world as a system of places.

A place is always a place within a system of places. However, the agent *qua* agent, that is, *in* his place in the system, exists with a necessary understanding of his place, that is, of his place as *this place within* the system of places.

Hence, the place of the agent becomes of extreme importance to our analysis. We must reach the system from a place where the system appears as intelligible. But, the system being a world, this place must be some place within the system. The places of tools, materials, operations, implements etc., are all places *within* the system, but they are not places from where the system appears as intelligible. Hammers do not understand. And so, a hammer's place in a system, making the hammer comprehensible, is not itself a place from where to comprehend the system. Accordingly, the place of the agent becomes our only access to the system.

³ Heidegger, 1967, p. 63-113.

5. *The Landscape*

In the heading, and several other places, Meløe talks about the world as something of which there can be many. But in the very first sentence in the article, and in several other places, the world is something of which there can only be one. At one place, the two senses if two they are, are brought together in one and the same sentence:

These remarks about our world are meant to sketch a framework for my investigations of the agent and his world.⁴

How should this ambiguity be disentangled?

To say that the system of places can only be reached from some agent's place within it, means that there is nothing like an overview to be had. (The proper places from where to see places within a house are themselves places within the house. And so there is no place from where to see all the places within the house.)

In mapping out the places of a world, we give it a *topology*. Every place is *near* to this or that, and *far* from this or that. I shall speak of a place in a world as having, in this sense, a *near-far structure*. To the agent in his place, what is *near*, is that which he can see, do, understand etc., straight away. What is *far*, is that which he must look past what is near to *see*, that which he can *do* only after having done what he is already in a position to do, that which he can *understand* only through finding some way of anchoring it in what is near, etc. And so, the specific agent at the specific place within the system of places, each with its near-far structure, will always find himself *located* within the system. I shall call the system of places, as found by the agent, finding himself located within the system, a *landscape*.

To the manifold of agents, or of agents' places, there correspond at least as rich a manifold of landscapes. But the landscape is the world, viz. it is the world as seen, understood and "practiced" from some specific agent's place within the world. it is the world in its necessarily *perspective* character. Accordingly, the world is one — and it is many.

The ambiguity in Meløe's concept world is not an ambiguity between two different concepts world, e.g. between the two concepts sketched above. The ambiguity is one that is built into the second of the two concepts, or brought about by Meløe's application of it. It is a consequence of the very fact that (a) a world is necessarily intelligible, but (b) can only be grasped from some place within it, and that (c) places in a world have a near-far structure.

6. *The Constructed Agent*

The agent's world is our world. And we are the agents in our world. The point about this might well be worked out as a point about *us*, viz. as a piece of philosophical anthropology: We, the human beings, are, in some fundamental sense, practical beings. The human life is, in some fundamental sense, a practical life. And our world is primarily to be understood in terms of our practical doings e.g. our operations, within the world. Etc.

⁴ Ibid. p.15.

Such a point is quite consistent with, and even congenial to, Meløe's thoughts. However, it is not the point to be worked out in *The Agent and His World*. Meløe's reflections on *our world* are mainly introductory. They serve, as he says, to sketch a framework for investigations into the agent and his world. The practical subject, that Meløe wants to analyse, is the *agent*, not us.

Meløe's agent appears, however, to be a highly *reduced* human being. He is *constructed* as the subject of some specific operation, nothing more and nothing less. He is, in Meløe's own terms, the *tautologous subject* of the operation.

The agent's world is our world. And we are the agents in our world. This will still hold true. But the point about it becomes somewhat more restricted, when it is taken as a point about the constructed agent. What remains, is, that we, who are to understand the agent, are allowed to *identify* ourselves with the agent. We can do what agents do. We can occupy the places of agents. We can act as subjects of the specific operations that agents necessarily are subjects of. Etc.

7. *The Tautologous World*

The aim of Meløe's constructivist approach to the agent and his world is then

to identify the smallest possible cut of our world that necessarily belongs to a single, practical operation, or the smallest intelligible ordering within which such an operation is intelligible.⁵

What is here called a cut of our world is the agent's world. In Meløe's terms it is the agent's *tautologous world*. But how can a cut of a world be a world itself? And how can the agent's world and our world remain the *same* world? How may a cut of a world be the same as that world itself? We shall take up one of Meløe's own examples, that of the shoemaker who is hammering out his leather to make it pliable. And we shall conceive the man, not as a shoemaker by trade and not even as the maker of just this pair of shoes, but, strictly and narrowly, as the subject of just this operation of hammering out the leather. He is to be conceived as a *leather-hammerer*, and just that. The least possible cut of our world that necessarily enters into this operation contains no more than what it must contain for us to be able to say that the man is hammering out the leather. Since it is, virtually, the concept of hammering out the leather that draws the boundary of its smallest cut into the world, the necessity that Meløe speaks of is of a logical kind. It is a necessity as strict in the domain of practical operations, as is a conceptual truth in the domain of language. Therefore, he speaks of the agent that is implied by this operation, or by the concept of it, as the *tautologous* subject of the operation, the implied tool as its *tautologous* tool, the implied object of the operation as its *tautologous* object, etc.⁶

The sum total of implications, or, what is totally implied in this way, we may simply call the *tautology*. In our example the tautology includes the leather-hammerer himself, that is, just enough of his soul, flesh and fate for us to be able to say that he is the subject of the operation *hammering out the leather* (which, of course, is rather a small portion of a whole human being). The tautology also includes his hammer and his piece of leather. And it includes his necessary understanding of what he is doing, that is, of each item included in the tautology. (Meløe speaks about the agent's *necessary knowledge*, which does not consist of necessary truths, but of what the agent must know to be able to

⁵ Ibid. p.15.

⁶ Ibid. p.14f.

do what in fact he is doing.) As this operation will not work unless the leather is placed on some solid support, the (concept of the) operation also collects its necessary support, or what may be called its *tautologous* support. But, as this support is to be tautologous for just this operation, it will not enter into the situation as a shoemaker's complete working bench. It will have no more structure or material than what is necessary for it to make the operation intelligible as an operation of hammering out the leather (with the point of the operation, making the leather pliable, built into the concept of the operation).

Is this tableau a world? That is the question. The kernel of the concept world, that we sketched above and ascribed to Meløe, can be expressed as follows:

This or that exists in so far as it exists *in a world*, and it exists in a world only in so far as it has a *place* in that world.

Let us say there is a knife lying on the leather-hammerer's table, or whatever we may call the tautologous support of his operation. It lies, in fact, on top of the leather he is about to hammer. Now, clearly, whereas the (concept of the) operation of hammering out the leather collects the hammer, as its tautologous tool, it does not collect the knife. And since it does not collect it, it makes no room for it either. Hence the knife does not *exist* in this landscape, not *as a knife*. Its place in this landscape is only something that gets in the way and has to be removed before the hammering can begin. It has no other place in this landscape than that of any other small obstacle, similarly placed and of about the same size and weight. Since the knife is not collected by the concept of the operation, its existence within it is contingent. But it has got a place there, as a small obstacle, and so it exists there, as that. Hence, to touch the kernel of the concept *world*, we must rewrite our formula, thus:

This or that exists *as this or that* only in so far as it exists *in a world*, and it exists *as this or that* in a world only in so far as it has a *place* in that world, as this or that.

So, it is clear how a proper cut of a world (here, of our world) can itself be a world (here, the leather-hammerer's world). The formula that defines what it is to be a world, also defines what it is to be a proper cut of a world.

It also becomes clear, how our world and the leather-hammerer's world can be the same world. The cut is a cut *of* our world, only in so far as it is a cut *in* our world. So, a border-line is drawn. It goes *within* our world in its character of a landscape, that is, as seen, understood and "practiced" from some specific agent's place (here, the leather-hammerer's place). And it goes *between* what is *necessarily* and what is *not necessarily* seen, understood and "practiced" by the agent performing some specific operation in that place (here, hammering out the leather). The agent's tautologous world, that is, the world of the tautologous subject of some specific operation, is our world as divided (or divisible) into what is necessarily and what is not-necessarily *operative* in the performance of that operation.

8. The Hierarchy of Worlds

The many small cuts of our world themselves go into greater cuts, both ordering them and being ordered by them. From the operation of cutting the leather to form, we construct the leather-cutter, from the operation of driving in the nails, to fasten the sole, we construct the nail-driver, etc. Then, from the leather-hammerer's world, the leather-cutter's world, the nail-driver's world, etc., we may

construct the shoemaker's world. And the shoemaker's world, where the shoemaker is the maker of just this pair of shoes, goes into, e.g., the shoemaker's world, where the shoemaker is shoemaker by trade, working, e.g. within an economic order based on commodity-change. And now the tautology of the world is about to be quite comprehensive, collecting a great number of agents — and even we, who contemplate the shoemaker at work, are about to be collected as not-just-contemplators.

If we extend this movement upwards, or outwards, the agents will approximate whole human beings, and the tautology of their doings will approximate our world. That is, we approximate in reconstructing our world from one singular doing in the world. I say *approximate*, because I find it hard to imagine human beings doing something, the concept of which may collect the whole world. This does not create any difficulties for Meløe, as his project neither intends nor requires a Hegelian synthesis.

However, genuine problems may arise on a lower level. If the production of shoes is broken up into part-tasks, and the several part-tasks are distributed over different persons, then it is quite unproblematic to apply such terms as leather-cutter, leather-hammerer, etc., if this is the way the production has been broken up. And to each such task, or operation rather, we may presumably construct the corresponding world, in the way I have been doing. But what if the leather-cutter, the leather-hammerer, etc., *and* the shoemaker, are all one and the same person? In that case, he will be a shoemaker *before*, logically or praxeologically before, he is a leather-cutter, a leather-hammerer, etc. And then it is a question whether the leather-cutter's world, the leather-hammerer's world, etc., can, each of them, retain the degree of autonomy that belongs to the shoemaker's world. The autonomies may then break down and if they do, then that is a point worth making.

When the shoemaker removes the knife that lies on top of his piece of leather, so that he can begin hammering it out, this act is intelligible within the world of the leather-hammerer. To each operation, there correspond derivative operations of removing obstacles to that operation. But the shoemaker does not brush the object away from the leather with a sweep of his left hand. He *hangs the knife up where it belongs*. And there is no such operation within the leather-hammerer's world. There are no *knives* in it and certainly not *places where they belong*. Hanging an article up on a peg on a wall, is a queerly cumbersome manoeuvre for getting it out of the way.

We *see* the man hanging the knife up on a peg, and if we are to make this act intelligible, we must expand the analytical space, that is, we must give the man a world, richer in (tautological) structure than that of the leather-hammerer. But then there is no half-way house between the knife-on-peg-hanger's world and the world of the shoemaker. Note also, that hanging the knife up where it belongs is no part of the production of shoes, as hammering out the leather is.

Similarly, when the shoemaker cuts the leather to form, he does not just follow a pattern, in the sense of a geometrical figure. He follows the pattern which the shoes that he is making require. He does so knowing what feet are, knowing what sort of shoes he is making, knowing, perhaps, what demands the terrain of the district place upon shoes to be used there, etc. And all that is *operative* in the performance of the operation. The smallest possible cut of our world within which an operation is intelligible must be rich enough to contain the operation as succeeding or failing. The operation of cutting the leather to form, following a pattern, is succeeding as long as the cutting stays on line, and is failing when it gets out of line. But to just what extent must it be off target before it becomes *practically speaking* appropriate (practical considerations being here the relevant considerations) to say that it gets out of line? 0.5 millimetres? 1 millimetre? 5 millimetres? The answer is not to be found in a world less rich than the world of the shoemaker. In that sense, it is not possible to construct a world simply corresponding to the operation of cutting the leather to form. There is no such thing as the leather-cutter's tautologous world. Or, the leather-cutter's tautologous world is the shoemaker's world.

II. OPERATIONS AND OCCUPATIONS

1. *The Operation Thesis*

We have taken Meløe's concept *world* to be expressed in the very first sentence of his article (see p. ###):

[...] to exist in our world is to be connected with our operations in the world, and such that the form of connection gives the form of existence. <###p. 13 footnote 5A>

And we have taken the kernel of this concept to be expressed as follows (see p. 6):

This or that exists *as this or that* only in so far as it exists *in a world*, and it exists *as this or that* in a world only in so far as it has a place in that world, as this or that.

Both statements may be taken to assert a constitutive connection between (a) a *world*, (b) *being* or *existing*, (c) being, or existing, *in a world*, and (d) having a *place* in a world. You may read Meløe's statement as a specification of our statement. It is the items (a) and (d) that are specified in Meløe's formulation. Ad (a): The world in question is explicitly *our* world. Ad (d): This or that has a place in the world in so far as it is connected with *operations* in the world — operations performed by subjects who are in a position to refer to that world as "our world". The topology of the world is mapped out via our operations in the world.

Reading Meløe's statement in this way, we are not reassigning the priorities, whether logically or ontologically, between the concepts of our last section. Of course not. All talk of assigning priorities between issues such as *world*, *being*, *place*, *operation*, etc., is quite devoid of meaning as long as they, as *concepts*, are defined hermeneutically (see p. 1-2) and, as *phenomena*, are constitutive of each other. We are not reassigning priorities. We are adopting a different perspective, or transferring the emphasis.

In the last section, we were emphasizing the world and the ordering character of the world. And we considered operations, agents, tools, etc., as being embedded in the world order. In this section, we shall transfer the emphasis to the operation. And we shall consider worlds, agents, tools, etc., as being, somehow or other, constituted by operations. When Meløe's statement is read in this way, it will be termed *The Operation Thesis*.

2. *The Modified Operation Thesis*

We have seen how the operation, via its constitutive connections with its agent, tools, materials, etc., goes to make up a world — provided that (1) the world in question is an agent's world, and provided that (2) the agent is construed as the tautologous subject of the operation. If we modify The Operation Thesis according to these provisions, we get the following thesis:

[...] to exist in the agent's world is to be connected with his operations in his world, and such that the form of connection gives the form of existence.

The modified Operation thesis takes the agent's world or the agent's tautologous world, to be constituted by the agent's operations in that world. It is valid, almost by definition. The original Operation Thesis takes our world to be constituted by our operations in our world. Is it possible to prove the original thesis from the modified one? How far is there between the two theses?

Not very far, in Meløe's opinion! And he sets out to go the whole hog. He introduces a concept our *practices*, which he explains as the totality of our forms of operations, with their tautologous forms of objects, tautologous forms of implements, etc. And *our world*, he says, is constituted through our practices.⁷ Temporarily ignoring the fact that Meløe in this context does not, strictly speaking, allude to operations, objects, implements, etc., but to their *forms*, we may consider the reconstruction of *our world* as a mere question of *systematizing* the many "small worlds" that we have already reconstructed, each of them from the operations that constitute them.

Note that the operations are thought of as constitutive of the systematizing as well. This is important. If the Operation Thesis is to be accepted, we must demand that our world, as reconstructed, comes out with shoemakers and strike-breakers, tools and materials, money and commodities, computations and insurances, etc., since it is our *operations*, with their respective tautologies, that are being systematized. The systemata make our world — in so far as they are operations or implied by operations. *The system itself must add nothing.*

3. System and Systemata. A Parenthesis

The strength of that sort of a requirement may be shown by an example where the requirement is *not* met. Articles of use exist only in so far as they enter into a *system* of articles of use, or into a system of usages of such articles. However, such a system can only exist as that of a society. Articles of use are exactly what a society keeps house with. They are embedded in the economy of the society. And they constitute the economy by the way they are embedded in it. Is it, then, possible to reconstruct the form of the economy from the system of articles constitutively embedded in the economy, *and from that alone*? Or, closer, is it possible to read off the capitalistic character of a system of articles of use from the very usage of the articles, *and from that alone*?

Whatever is implied by systemata must itself enter into the system. That is the rule of thumb in the project of reconstruction. And so we start off with the *technology*. A system of articles of use typically involves, or, in a wide sense, is, a technology. Hence, typical systemata will be raw material, processed material, tools, machinery, computers, etc. Outside the typical sphere of production we find means of transport, medical instruments, educational appliances, etc. And in the private sphere, by Marxist economists eventually called "the sphere of reproduction", we may find e.g. spray-boxes, washing machines, televisions, etc. Typically, an article of use belongs to a technology in virtue of its *use* within that technology. But in a wider sense it may belong to the technology in so far as it is *produced* by the technology. (You may use, that is drink, your spring water and your Coke in the same way, Anyhow, the Coke is closer to the technology in our society than is the water: it is a typical product of it.) Hence, also the foods, the drinks, the hall points, the books and the beds may enter into the system of articles of use as technological items.

Now, from the technology itself, we may reconstruct the know-how, the technique, necessarily

⁷ Ibid. p.14.

implied in the use and production of the technology. (Again, this may also be embedded in the very concept of the technology.) We may also reconstruct the necessary maintenance of that know-how. Next, we may reconstruct the agents necessarily displaying the know-how implied in the use and production of the technology, as well as the agents necessarily implied in the maintenance of that know-how. The reconstruction may probably proceed even further. But the articles of use are not only produced and used. They are also owned, and the *ownership* in question may be *transferable* according to certain principles, regulated by certain social authorities, etc. You may become the owner of a thing, getting it by exchange. Or you may buy it for money. Or you may inherit it. Or some social authority may allocate it to you, because you need it, or because you deserve it. You may use it, without owning it. And you may own it, without using it. Similarly, the *use* of the articles is *distributed* among the members of the society according to certain principles. You may (legally) use a thing, because you need to use it. Or you may use it, because you have paid for using it. Or you may use it, because you are paid for using it. Or you may use it, because you have arranged it so with certain others. Or you may use it, because some social authority has imposed you to use it, then and there. The structure of ownership, or of transference of ownership, as well as the distribution of the use of the articles on the members of the society, subsumes the whole system of articles of use under the specific economic form, in casu the capitalistic one. Hence, the technology in question becomes a capitalistic technology. This, however, cannot be read off from the technology itself. To see a technology as a capitalist technology, we must see it as embedded within the framework of a capitalist mode of production. And this frame cannot be read off from what it frames. This holds even if historical materialism is right — that is, even if there is a necessary, or historically necessary, connection between the technology of a society and its mode of production, between what is embedded and what embeds it. "The hand-mill gives you society with the feudal lord; the steam-mill society with industrial capitalist", says Marx.⁸ But the necessity by which a certain technology *gives you* the character of a society, is a necessity that allows us to *deduce*, with some high degree of certainty, the economic character of the society, not to *reconstruct* it. (The very *usage* of this or that sort of a mill remains the same, whether the subject in action is a villain or a wage-earner.)

And now we shall return to the operations and The Operation Thesis.

4. The Hierarchy of Operations

It is not difficult to find a systematic structure in the manifold of operations. Just as the *articles of use* exist only in so far as they enter into a network of uses of them, so *operations* exist, or *take place*, only in so far as they enter into a system of operations. And the typical structure of this system, although not the only one, is *the hierarchy*: a number of subordinate operations go into some superordinate operation as the parts go into a whole. The single blows on the nail together go into the operation of driving the nail in. The superordinate operation may itself, together with other operations, go into some operation of a still higher order. In driving in a particular nail, I perform an operation that, together with other operations, effectuates some superordinate project, such as making a bookshelf.

The movement upwards in the hierarchy makes the agent's world more commodious: more *places* are generated, as more tools, materials etc. are collected. The agent in question may even become a team. (Giving the nail a single blow with the hammer, can hardly be done collectively, but making a

⁸ Marx (1910), p. 119. : *The Poverty of Philosophy*, Ch. 11, §1.

bookshelf can.) The movement upwards tells us *what* the agent is doing, and the movement downwards tells us *how* he does it. And one cannot ask how the agent does what he does without knowing what he is doing. The hierarchy, therefore, is a principle for the segmenting of a whole rather than a principle for the synthesizing of a manifold. Or rather, it is a principle for synthesizing only in so far as it is already a principle for segmenting.

The several operations are, therefore, constitutive, in a straightforward sense, of a system of operations (with their corresponding tautologies) as long as the superordinate activity is *itself* an *operation*. If it is *not*, then it is also questionable whether it is *constituted* by the several operations that go into it.

The shoemaker hammers the leather (so as to make it more pliable): this is an operation — it can be segmented into part operations, such as the individual hammer blows, and it is itself a segment that, together with others, goes into the superordinate operation of making a pair of shoes.

The shoemaker is making a pair of shoes: this is itself an operation — it can be segmented into part operations, such as hammering the leather, and it is itself a segment that, together with others, goes into some superordinate operation. As for example which? We already find ourselves in difficulties. It is, even at this stage, hard to describe an activity that is superordinate to the operation of making a pair of shoes and is itself an *operation*.⁹ At some stage, and we may already have reached it, we shall have to face that order of doings that belongs to the shoemaker as shoemaker, that is, that order of doings whose tautologous subject is the *shoemaker by trade*, or by *craft*. But his trade, or his *occupation*¹⁰, is something the shoemaker goes about, takes care of, looks after, engages in or manages. It is *not* just *performed*.

5. The Concept of an Occupation

As the subject of an *operation* one gets something done, and what is to be done is given ahead of doing it, as that which one *aims at*, and it is that which gives the operation its *form*. Hence it is possible to speak of *stages* of an operation, and at each point in time it can be said to be *this or that far from being completed*. An *occupation*, or trade, is not completed. But it is always possible to ask *how things are going* with it — and it is the way things are going that tells you what is to be done *next*.

The shoemaker, as the subject of his trade, or his occupation, is not constituted by what he is now doing, but by doing whatever he is doing in awareness of, and perceptive to, the overall state of his trade. The subject of a trade, in going about his trade, exhibits a *tautologous interest* in his trade. The shoemaker never *merely* makes a pair of shoes: He makes the pair of shoes that Old Nick from Outer Fringe has asked for; or he makes the twenty-seventh pair in that series of fifty which the buyer up in the town ordered to complete the range on display in his shop; etc. Hence, the identity of the product is, first, its place within the history of the trade. It is from this identity that the shoemaker, next, derives the form of the product, in the sense of that which his operations can be aimed at (a pair of leather shoes, for example, size 44, of design K, etc.). And only then does the shoemaker arrive at the form of

⁹ Meløe himself nowhere defines the operation concept. We shall later be attempting a more explicit account of his concept of an operation.

¹⁰ We chose the term occupation, because of its reference to a place within a system of places. But sometimes we write trade or craft instead of occupation, or just work. (All this for the lack of an English equivalent to the Norwegian "virksomhet", or the German "Wirksamkeit".)

his operation: this and that must be carried out (e.g. produced, brought into existence), that has not yet been carried out (produced, brought into existence).

Meløe's praxeology is in no small measure a piece of "Augendenken" (visual thinking). And it is true that we do not *see* the shoemaker going about his trade unless he is operating. But it is not the form of these operations that makes the agent a shoemaker, or tells us that what we see, is a shoemaker going about his trade. Hammering leather is, no doubt, a typical shoemaker's operation, and if we understand what the agent is doing as hammering leather for shoes, the operation can hardly be embedded in other trades than that of the shoemaker. Given that operation is embedded in some trade, we can *figure out* that the trade it is embedded in, is that of the shoemaker. But we cannot tell, from looking at the operation, that it belongs to some trade. Praxeologically speaking, hammering the leather only makes the agent a leather-hammerer. And making a pair of shoes, or ten pairs of shoes, only makes him a pair-of-shoes-maker, or a ten-pairs-of-shoes-maker. And that does not make him a shoemaker, in the full sense of shoemaker by trade. The agent is a shoemaker, in the full sense, only if *in* hammering the leather, he is *thereby* looking after the shoemaker's tautologous interest in the trade of shoemaking.

6. *The Completeness of the Shoemaker's World*

It may well be possible to look at the shoemaker's doings from an angle that makes them appear, at any given time, as a system of operations. But what collects all of his several doings and constitute them as the doings of a shoemaker, is not an operation, but an occupation. It is his being a shoemaker by trade. It is, therefore, quite difficult, even in principle, so to reconstruct the shoemaker's world that it comes out as a system of operations, with the operations themselves as constitutive of the system. And making the shoemaker's world, so reconstructed, *complete*, becomes even more difficult:

If the light overhead is too dim for the shoemaker to see what he is about, e.g. hammering the leather, he tries with a stronger bulb. He does the same, for that matter, if he cannot see properly to tidy up after himself. And if he knocks his finger so that it bleeds and makes it awkward to hold the hammer, he bandages it. If he is worried about break-in, he fixes the windows with shutters, gets hold of a good lock, and stakes sure everything is fastened and locked before he leaves for the day. And so on and so forth. These doings, each of which may be classified as an operation, are naturally rooted in, or derived from, the concept of a trade, where things are going in this way or that, and from the concept of the tautologous interest with which the subject, in going about his doings, looks after those same doings. On the other hand, there is no operation, be it ever so superordinate, such that these doings can be derived from it. I shall give two reasons for that:

(1) The tautologous subject of an operation has got the task to perform the operation. And by definition he is able to solve that task, nothing more, nothing less. Accordingly, certain operations derivable from the tautology of the operation are already fulfilled, when he sets out to perform the operation. The leather-hammerer, for instance, has already got the knowledge and skill necessary for hammering out the leather, he has already taken hold of the hammer and of the piece of leather, he is already at the proper place for hammering it (e.g. at the working bench), he has already adopted the bodily posture adequate for the operation, etc. In short, the tautology is already *established*. If it is not, he can do just nothing, and strictly speaking he does not exist, not as the tautologous subject of the operation. His task is to perform the operation, not to establish the tautology of it.

What makes the world *in order* for the operation, according to the tautology, can be listed. The set of conditions derivable from the tautology is a *finite* and *closed* set. It goes into a *form*, viz. the form of

the operation. The *total* set of necessary conditions does not. There are no limits to the number of ways you may be prevented from performing a certain operation. Accordingly, there are no limits to the number of ways in which the world must be *not-in-disorder* for the same operation to be performable. And, finally, there are no limits to the number of operations eventually necessary for establishing (re-establishing, maintaining, etc.) the tautology of the operation in question. If the light has gone out, if the workshop is burning, if the eye-glasses disappear, if right hand's thumb bleeds, etc., there will be no hammering out the leather. Consequently, the light must not go out, or you will have to fix it, the workshop must not burn, or you will have to put out the fire immediately, the eye-glasses must not disappear, or you will have to find them, the thumb must not bleed, or you will have to bandage it, etc. The set of conditions, so defined, is a set of conditions practically relevant to the organization of the workshop, qualifying the skill of the shoemaker, determining his everyday life, etc. And, most important here, it is a set of conditions necessary for the operation in question. Hence, it constitutes a set of operations eventually necessary for establishing (re-establishing, maintaining, etc.) the tautology of the operation. But it is an *open* and *indefinite* set. And such an indefiniteness cannot go into a *form*, neither the form of the operation in question (e.g. hammering out the leather), nor the form of any other operation. From a certain stage in our analysis, the agent's strict finality, his deriving operations from operations, or from tasks, must be replaced by his open awareness of whatever the situation may demand, and so his skill and imagination to solve problems. That is, the subject of the operation must be replaced by the subject of the occupation.

This was the problem of the open and indefinite set of operations $\{O_1, O_2 \dots O_m\}$ establishing or maintaining necessary conditions for a given operation O_n without being derivable from O_n or from any other operation O_p from which O_n itself is derivable.

(2) Even more evidently, problems will arise with any operation O_k not derivable from, nor establishing or maintaining necessary conditions for some particular operation O_j already given, but getting its aim solely from *the fact that* and *the way in which* O_j belongs to a trade and owes its place to that trade. When the shoemaker tidies up, when he inserts a stronger light bulb so as to see better for tidying up, when he fits a new lock and locks up after himself, etc., then these operations are not derivable from other operations, and certainly not from the operation of making shoes. They would, of course, be pointless, if he did not now and then, and probably rather often, perform the operation of making a pair of shoes. But their aims are never dependent on this or that particular operation. They are required by the goings on in and around the shoemaker's trade, or by the fact that the operation of making a pair of shoes itself belongs to the shoemaker's trade, where things are going in this way or that. If the operation is not understood as belonging to a trade, and the subject of the operation as the subject of a trade, then we must face either one or the other of two shortcomings: we either lose the unity of the manifold of operations, or we are not able to make the world in which they take place a *complete* world.

In short, we apply the concept of an operation to *close* the space of analysis, and we apply the concept of an occupation to *open it up again*. And this opening up now appears to be necessary for the reconstruction of *our world* from the (operation-performing) agent's world.

III. THE CONCEPT OF AN OPERATION

1. *The Task*

We shall now try more detailed to explicate Meløe's concept of an operation. But there will be no direct textual exegesis, and there will be no genuine argumentation that the explication is the most adequate one. If the reader finds that it is consistent with our preceding chapters, and that it seems to fit well with what Meløe writes in *The Agent and His World*, and in other of his articles, then we shall consider the task to have been solved. So the reader is in on it as well.

What, then, is meant by "X performs the operation O_n "? We shall approach an answer stepwise, formulating four requirements where (4) is a specification of (3), (3) of (2), and (2) of (1).

2. *The First Requirement*

(1) X *does* something, as distinct, for a start, from something *happening* to X.

If X buys a lottery ticket, he does something, whereas if he wins something in the draw, that is something that happens to him. The borderline is not always sharp, as the two expressions are normally understood. If X plays the gramophone at night that is something he does. If he wakens his neighbour by playing it, then that is something which he, as we say, *happens to do*. But that which one happens to do one can also be said to do, and X may be as responsible for his neighbour's being wakened as for a done deed. The law might here speak of negligence, and this concept helps us through one more layer on our way towards the kernel of the concept of an operation. For *an operation is never committed through negligence*. The agent (the tautologous subject of the operation) performs the operation in a necessary (or tautologous) understanding of what he is doing. The operation *as operation* has a *form*, it fits the form (or *goes into* it, or *is* it), and, hence, is *definite* and *finite*. On the other hand, the operation *as an individual taking place* is indefinite and infinite — in the sense that it enters into a network of causal sequences, and in such a way that the individuality runs along the sequences. (What did he do? He played the gramophone! What did he do? He played the gramophone, thus wakening his neighbour! What did he do? He played the gramophone, thus wakening his neighbour, so that his neighbour overslept the next morning and was late for work! Etc.)

3. *The Second Requirement*

(2) X does something that brings about a *change*.

The factory workers do something that changes the world: they produce. But the factory's night watchman does not change the world by doing his job. On the contrary. His task is to see to it that the factory, the domain that he is responsible for, is in the very same state the next day as it was at knocking-off time. His primary duty, we may say, is his very being at the factory during the night, instead of being at home and asleep. A world where the night watchman is on duty at the factory is, of course, different from a world where he stays at home. If we call bringing about this difference "bringing about a change", we must remember that this change is brought about by the night watchman going to his work. And he does not do his work by going to it, but by being at it.

The night watchman at work may well, at whatever moment we choose, be effecting some change,

or even be doing something that may be described as an operation: he plants one foot in front of the other, does one of his rounds, turns the key in the control watch, or what have you. But there is no superordinate operation (or directive to operate, or directive to change the world), that generates these doings. They are generated by his job, by what it is to keep watch.

And jobs of this sort are not peculiar to the dark hours. We come across them at daylight too — subtly incorporated into the process of production. Just as the night watchman normally does nothing more than see to it that things still are as they should be, the operator at the control panel normally does nothing more than see to it that the production process still runs as it should. What is required, in both cases, is a measure of know-how: the subject needs to know what it is for conditions to be normal, or in order, and what to do if they are not. What the subject does if they are not in order, is certainly to effect some change in the world (call the police, press the buttons F25 and KW16, etc.). But effecting such changes is not *constitutive* of the night watchman's job, or the panel operator's. What is constitutive of their job, that is, of what they are doing when on the job, is rather their *being prepared for* such interventions, and their *being capable of* executing them, *should* the situation require it. Imagine two working days on the same plant. On the first, everything runs smoothly and the panel operator sits chin in hand as the princess in the tale. On the second, hell is loose, and the operator plies his knots and buttons as if he were playing Chopin-studies. On both days the operator is minding his job. And the job is the same on both days, minding the control panel. In this sense he is also *doing* the same on both days.

4. The Third Requirement

(3) X does something that brings about a *determinate* change and in such a way that the determination is settled *before* X sets out to bring it about (a) as that which is *aimed at*, and (b) as that which gives to the bringing about its *form* (see p. 1). That is, X does something, the upshot of which will qualify his doing as something *succeeding* or *failing*:

Weeding the herbaceous border or angling eight fishes by fishing-rod are both of them doings of this type. On the other hand, weeding *in* the herbaceous border until dinner or angling until sunset are not. Right enough, also in these cases the done deed gives the world a more or less different look, and the difference was no doubt aimed at. But the upshot (two thirds of the border being cleared of weeds, or the whole of it, or 2½ square metre, or 55 dandelions being pulled up; or five fishes being caught, or none, or enough for next week) is not operative ahead of its being brought about, as that which gives form to its bringing about. The upshot does not qualify the doings as something the agent succeeded or failed to do.

5. The Fourth Requirement

(4) X does something that brings about a determinate change, and such that it is possible, at any moment during its bringing about, to identify a *next step* (at least one next thing to do) on the road to it having been brought about.

The agent, *qua* agent, does not only aim at a determinate result. He also follows a path *from* the point of departure (where the agent is in tautologous position to take the first step) *to* the result. Once the agent is on his way, that is, in action, there is always a next thing to do (at least one), and when the

agent has done it, he is also one step closer to the result. And this is no triviality, as it rules out one of the two examples that satisfied requirement (3) of being an operation. Weeding the herbaceous border is still in, but catching eight fishes is out. Pulling up the next dandelion, clearing the next square metre, etc., are next steps in a sense in which catching the next fish is not. True, when you have caught one more, you have one less to catch, and you are in that sense one step closer to the end result of having got hold of eight. But standing with your fishing-rod on the beach the only *next thing to do* is throwing out the line, whereas the only thing that *brings you closer* to the result is catching a fish.

6. A Summary and a Possible Fifth Requirement

As mentioned above, each succeeding requirement should be a specification of the preceding one. You cannot (2) do something that brings about a change, unless you (1) do something. You cannot (3) do something that brings about a determinate change, unless you (2) do something that brings about a change. And you cannot (4) proceed stepwise towards a determinate result, unless you (3) do something that brings about a determinate result. And this structure of our four requirements makes it easier to show that the concept of an *operation* which we have worked out, really is Meløe's concept. Meløe is quite explicit on the programmatic structure of an operation, at several places. At one place he writes:

I presuppose that my identifications of what the man is doing fit ... his own instructions to himself. ... As the instruction is naturally thought of as a system of instructions, it might also be called a 'programme'. I imagine that such a programme, within the framework of a given technology, generates a system of subordinate operations, and that the agent, at every point in the chain of operations, articulates his own operations on the basis of the instructions which define that point.¹¹

There may still be some doings that are operations according to the concept delimited by the requirements (1) to (4), but that are not operations according to Meløe's concept. All the examples of operations that Meløe gives, in *The Agent and His World* and in other articles, have yet another feature in common, in addition to the four, and that is *surveyability*. There is always one place, at least, from which the operation can be observed, in all of its stages and as a whole. Knocking in a nail or making a pair of shoes, with the adequate tools and materials at hand, are both of them operations on this requirement. Building a house and clearing a forest are not, though the requirements (1) to (4) are satisfied for both examples. The requirement of surveyability, even if hard to define, may preliminarily be explained in a simple rule-of-thumb way: an operation is surveyable only if you can make a picture of it, where the picture is either a still, be it a drawing or a photo, or a film taken with the camera in a fixed position. You can make a picture of a man knocking in nails or of a man making shoes, but hardly of a man building a house, as distinct from making a door or fitting it into the frame, and hardly of a man clearing a forest, as distinct from felling a tree (in a forest).

¹¹ Meløe, 1983, p. 24.

IV. THE CONCEPT OF A PRACTICAL OPERATION

1. The Term 'Practical Operation'

The four or five requirements developed above fit all of Meløe's examples of operations in *The Agent and His World*. However, Meløe himself places a restriction upon his concept of an operation, or rather upon his application of it. He writes:

By operation I mean, in this article, a practical operation, whether the agent is a single man or a team.¹²

Meløe gives no definition of his concept of a *practical operation*, but he does give a number of examples: (a) chopping firewood, or splitting a log, (b) picking berries, (c) lifting a beam, and (d) making a pair of shoes, or making a left foot ski boot size 43.¹³ He also formulates what he calls a basic form of a *practical operation*, viz.:

x operates on y, where "x" marks the place of the agent, or the subject of the operation, "y" the object of the operation, or its target, and where the verb "operate", or "operate on" is a stand-in for some suitable verb of action.¹⁴

The essential term is 'on'. A practical operation is an operation, in which the tautologous subject operates on the tautologous object. This does not amount to a definition. First, because there are operations-on-objects, that hardly should be called *practical*. (Example: When x puts his signature on the testimonial, he operates on the testimonial, but his operation is not, or not just, a practical one.) Secondly, because there are practical operations, that hardly should be called operations-on-objects. (Example: Eating (some) food or drinking (a) drink are among Meløe's own paradigms for practical operations. But the food and the drink are dubious candidates for the y-position in the basic formula, at least according to an ordinary linguistic instinct: You do not eat on the food, you just eat it; and you do not drink on the drink, you drink it.) What, then, does the term 'on' mean in this context? What is the essence of the practical operation?

To answer such questions we must try to get at the relations between understanding what someone is doing and observing it.

2. The Agent's and the Non-agent's Understanding

The agent is the subject in action, that is, the person doing something S_n . And the non-agent is any person not doing S_n , that is, he is a non-agent with respect to S_n . In principle both the agent and the non-agent can understand S_n . Such an understanding is necessarily attributable to the agent, because the

¹² Ibid. p. 17.

¹³ Some of the examples do not by their very formulation, appear as operations, according to our interpretation above. But they may be so reconstructed, and the reconstructed variants may be conceived of as the explicit variants. That is, Meløe's formulations come out as shorthand of the explicit variants.

¹⁴ Ibid. p. 15.

very concept of understanding-what-is-being-done is basically tied to the understanding that the agent necessarily has, in so far as he is really doing what we say he is doing.¹⁵ And if the non-agent understands what the agent is doing, the non-agent *eo ipso* shares in the agent's necessary understanding of it. The agent's understanding of what he himself is doing, is his understanding of himself as occupying a definite place (the agent's tautologous position) in a definite system of places (the agent's tautologous world). And the non-agent's understanding of what the agent is doing, is his understanding of the agent as occupying the same place within the same system of places. We may also say that the agent's understanding of what he himself is doing and the non-agent's understanding of what the agent is doing, are *located in the same space*. If the shoemaker's workshop, in some more or less formalized version of it, accommodates that system of places which the shoemaker occupies when he is making shoes, then that workshop also defines the space within which the understanding of what the shoemaker is doing takes place, be it the shoemaker or some outsider who embodies that understanding.

There are a number of reasons why it must be possible for the non-agent to share in the agent's necessary understanding of what he himself is doing. I shall point to two of them.

(1) In our world agents, as the tautologous subjects of operations, exist only as analytical constructions from whole human beings. The agent has not always been that agent, i.e. he has not always been the subject of S_n . The (person that we now identify as the) leather-hammerer has not always been hammering the leather. The shoemaker has not always been making this pair of shoes — or shoes at all. Nor has he always been the subject of what is now his trade (shoemaking, with all of its derived activities). There must have been a time, when the agent entered upon the action with a necessary anticipatory understanding of what he is doing now.¹⁶ That is, there was a time when he, as non-agent, understood what he, as agent, had to do or would be doing.

(2) The possibility for *me*, as non-agent, to understand what *you*, as agent, are doing just now, is built into the world's being *our world*, and thus, as our world, *one world*. We both move within the same system of places, and we move within it with an understanding of its places, and of our movements therein. You and I may actually be located at different places within the system, but the places are connected, as places within the same world.

There are no two places such that there is no path between them. Similarly, it may be that I do not actually understand all of your movements within the system. But the very syntax of intelligibility, I always master, since we both move within the system with a necessary understanding of the systematic character of any movement.

However, we should, for a while attach importance to the distinction between understanding as a possibility and understanding as actualized. It is clear that the agent actually understands what he himself is doing, and it is clear in which sense he does so. The actuality of his understanding is built into the actuality of his doings. But what does it mean to say the non-agent actually understands what the agent is doing just now?¹⁷

My understanding of what you are doing in our world, is itself a matter of fact in that very world. It has to *take place* within it. In a strictly formal sense we shall here take account of two possibilities:

¹⁵ See p. 41f. above.

¹⁶ Where the action concerned is an operation, this anticipatory understanding may even be said to be total, on account of the operation's programmatic structure.

¹⁷ Or has (just) done? or is meant to? These temporal variations are scarcely beside the point. But in this correction we put them on one side.

Either (1) I am *near* you, when you do what you do, or (2) I am *apart* from you, when you do what you do. Ad (1): *Being* in action you are the subject for the agent's understanding of what the agent is doing. *Being present at* the action I am the subject for the non-agent's understanding of what the agent is doing. The relationship between the agent's and the non-agent's understanding corresponds to the relationship between to *be...* and to *be-present-at...* And the form of the action widely determines the nature of the near-hood. Ad (2): This case is somewhat more complicated, since there are numerous ways of being absent from the action. Common to all is that there is something *in between* the agent and the non-agent, something the non-agent has to *reach beyond*, if he is actually to understand the agent. This faces us with two possibilities: (2a) Reaching beyond the "something in between" the non-agent *brings himself near* the agent. And so his understanding of the action comes out after all as the understanding displayed by a subject being present at the action (supplemented, maybe, with the account of how the presence came about). Example: In some "geographical" sense I may be located inside your workshop. However, I am not present at your action, anymore than your dog is: I am ignorant of some technical elements. But the ignorance may be said to *separate* me from the action in a sense not applicable to the dog. Understanding belongs to me as a possibility, the world being our world. Through information I may actualize that very possibility, and so, reaching beyond the ignorance, I find myself present at the action. (2b) Reaching beyond the "something in between", the non-agent *remains apart from* the agent. His understanding, however, is only adequate if it is derivatively linked with the understanding displayed by the subject being present at the action. Example: Outside your workshop I am definitely not present at your action. But I may be told about it, come by an understanding, and, in that sense, reach beyond. I remain apart from you. but the report is only adequate (i.e. the understanding obtained through report is only adequate), if it exposes what I *should* have been present at, if I had been near you.¹⁸

Both these transformations are of interest and worth investigation. But they also by their very structure furnish a pretty strong argument for focusing the initial analysis on two points: (a) the understanding generally displayed by the non-agent present at the action, and (b) the relationship between the understanding of the action displayed by the agent in action and the understanding of the action displayed by the non-agent present at the action.

3. *Doings and Observations. Observations of Doings*

Several of our epistemic key terms appeal through their etymology to the sense of sight. Germanic words for "knowledge", such as the German "Wissen", the Danish "viden", etc., have a common root with the Latin "video" ("I see"), while such a word as "insight" wears its source on its sleeve. True, a blind person can have both insight and knowledge, although a whole world peopled merely by blind persons is hard to imagine! It is quite important that man has got eyes — so important that we find what is visually comprehended serving as epistemic paradigm through centuries of epistemological discourse. Empiricists as well as rationalists conceive the subject of knowledge as being essentially a *spectator*, be it of things, events, ideas, proofs, evident truths, or whatsoever. *Episteme* remains

¹⁸ The distinction between the understanding belonging to a person on the spot as different from the understanding belonging to a person who isn't, displays a striking similarity with Bertrand Russell's distinction between knowledge by acquaintance and knowledge by description. This similarity is only increased if we substitute Russell's term knowledge with the hermeneutic "Verstehen".

observing.

The project of praxeology turns out to be an epistemic paradigm- shift. The observer's episteme is to be derived from, or is a special case of, the agent's episteme, even when praxeology itself displays a tendency to "Augendenken" (see p. 11). The concept of the agent's tautologous understanding or necessary knowledge is very suitable for such a re-foundation of episteme. If the object of episteme itself is an agent, an action or a tautologous component of an action, the observer's understanding is evidently subordinated the agent's understanding. But if each and every phenomenon only accedes to our world by getting a place in a system of places generated from doings (see p. 3), then the understanding built into practice will universally be the fundamental one.

To observe something is to perform an act of observation. And in this sense observations themselves will be objects for praxeological analysis. On the other hand, *what* is observed may itself be an action. And the observing of an action is by Meløe a crucial important way of being present at the action. So important, we shall see, that the very conditions for *observability* partly determine the nature of the actions or doings themselves.

The non-agent does not see more of the agent's doings than what he *understands* of it. The agent as well as the observer has a necessary understanding of what the agent is doing. Observations are doings themselves, and so the observer himself has got a tautologous understanding. What the agent must understand to be able to do something, he necessarily understands when he in fact is doing it. And what the non-agent must understand to be able to see something, he necessarily understands when he in fact is seeing it.

But understanding is not the only tautologous component of observing. Especially important to us is the observer's tautologous *place*. It is the place that the observer necessarily occupies when he sees the agent doing so-and-so (making a pair of shoes, hauling in the net, etc.). Since the place is individuated by what is to be seen from it, on the level of action, there may be more than one instance of it on the floor. What the agent is doing may be seen equally well standing to his right as standing to his left. But whatever the agent is doing, the observer must be *there*. He must be *present*. The observer's tautologous place is always a place within a landscape localizing the agent, his tools, materials etc. But this landscape is not simply identical to the agent's tautologous landscape. It encompasses it. Through the localization the agent, the tools, the materials etc, become absorbed into the landscape, which in turn comes out as the observer's tautologous space, or the *space of observation* of the agent. (The observer is, in principle, only moving his glance. There is a *terrain* for what he sees, but not for his very seeing it. So much for preferring the term "space of observation" to the term "landscape of observation".)

In the following paragraph we are going to classify some doings according to their observability. The operative concepts are *the observer's place*, *the space of observation* and of course *the doing* itself irrespective of its being observed or not.

4. The structure of observability

(1) If I am to see a man felling a tree in the forest, I must go into the forest and place myself reasonably close to him (not so close that I come in the way or lose the overall picture, and not so far off that I cannot keep track of his doings) and my angle of view must allow me to see both him and what he himself sees. If there is an obstacle to my view, it must be removed or otherwise overcome. When the tautologous place for observation has been secured, then that is where I settle. As I have explicated

Meløe's concept of an operation, with the fifth requirement included (see p. 15-16), there must be at least one such place, when what is observed is an operation.

(2) If I am to see a man *clearing a forest*, it gets a bit more complicated. There is then no one place where I can settle and follow his movements with my eyes. I must follow him in body, from tree to tree or from the one cluster of trees to the next. Only then can I see him doing that which he does. When I have seen him bring down every tree, and seen each one of them as one of the trees in the forest, then I have seen him clear the forest. The clearing of a forest, then, is something that can be observed. But the observer's tautologous place moves, and the observer must move with it, to carry through his task of seeing the man clearing the forest. The space of observation thus encompasses, at each point in time, the whole sequence of tautologous places (present, past and future) in addition to the agent, the tautologous tools of his operations, the tautologous landscape of his operations, etc.

(3) If I am to see a man *boiling an egg* at the kitchen-range, soft-boiled say, it gets simpler again — and more complicated. Once more, there will be at least one place from which the whole course, even shorter in time than felling a tree, maybe observed. However, *what* I observe is not an operation, nor is it in nature analysable as a sequence of operations. And that makes a change in the structure of the *observing* too. Initially I see him putting on the pot, finally I see him taking it off again. In both cases he is performing an operation, and each is observed in the same way as the felling of a tree. What do I see in between? What do I see, when I see a man boiling an egg, and, for the moment, the pot is (already) at the fire and not (yet) to be taken off? I see the agent as agent in the production of a soft-boiled egg, i.e. I follow the course with my eyes, as I did when I observed the agent felling a tree. But to follow the course does not mean to follow the agent's movements. In that case there would, eventually, be nothing to see. To follow the course means to follow *him* following the course. And he is following the course in so far as he is permanently *prepared to step* in when called for. His doing only becomes manifest, i.e. observable, when he *actually* steps in, i.e. when the situation *actually* calls for his preparedness, i.e. when things do *not* go as they should — or when the whole course has come to an end.

His preparedness *in* the situation may entail a change in his reaction to things *outside* the situation. When the telephone calls, he may refrain from answering it, or he may shorten the conversation to a minimum. Such a behaviour becomes intelligible and reasonable, given the agent and his situation. It may even be taken as an expression of his preparedness in the situation. But it is not a manifestation of his doing. I do not observe a man boiling an egg, in so far as I observe him shorten a telephone-call because he is boiling an egg. (This last consideration is, of course, totally irrelevant, if the agent spoken of is a "tautologous egg boiler". A telephone-call does not *exist* in his world, and so it cannot make a problem to him. Not as a telephone-call. It may, at the most, exist as a disturbing sound. Even that is doubtful. Tautologous egg-boilers have not got ears. But the absence of such problems makes it even more problematic to reconstruct our world from agents' tautologous worlds. In whose tautologous world does somebody shorten a telephone-call because he is boiling an egg? Not in the egg-boiler's tautologous world, nor in the telephone-answerer's.)

(4) We are now prepared for the most complicated case. We let the man *keep cattle*, i.e. be a *cattle-farmer*. Three levels will be involved in the analysis of the observability of the agent and his doings: (a) The agent in question is a cattle-farmer and *keeps cattle*. (b) As a cattle-farmer he may, typically, but far from exclusively, do the job of *looking after the cattle*, i.e. he will be a cattle-minder. (c) And in looking after the cattle he performs operations such as *milking twenty cows*.

To keep cattle is to *do* something. "He keeps cattle!" can be an answer to the question "What does he do?" ("What does he do for a living?"). But keeping cattle is being the subject of a trade, and as such

it is something the man does all the time, whether he is in the cowshed or in the sitting-room, whether he is awake or asleep. I *can* see by the things that he does in the course of the day, or a year, *that* he keeps cattle. That is, I can see it or I can work it out from what I see. But I *cannot see* him *keeping cattle*, as I saw the other men felling a tree, clearing a forest, or, possibly, boiling an egg.

The cattle-farmer is displaying his trade in so far as he sees to it that things are as they should be. He looks after the cattle. (Or he sees to it that the cattle is being looked after. The distinction between keeping cattle and looking after cattle is illuminated by the fact that the subject of each may be two different persons. However, in our example the two subjects are personified in one and the same man.) Looking after the cattle implies a great number of doings, each of which may have, in a higher or slighter degree, the character of an operation. But in observing any one of these doings, we do not therefore see that they are derived from the overall concern of looking after the cattle. A man is not *eo ipso* looking after the cattle because he (a) milks twenty cows in the cowshed at daybreak, or (h) drives them out on the field, or (c) stays close to them during daytime, or (d) brings them home again before dark. Even the accomplishment of the whole sequence would not be sufficient. He might do (a)-(b)-(c)-(d) because he was instructed to do so, i.e. instructed to follow that program, and *not* because things appeared to demand it. He might accomplish a *blind sequence*, blind to the demands of changing situations, guided by a program, instead of an open sequence, open to, and hence guided by, the demands of changing situations. The blind sequence may, accidentally, be adequate, i.e. it may fit the demands of the situations. And so, on the level of operations there will be no observable difference between the blind and the open sequence. (They are only discernible when the blind sequence does not fit the demands of situations.)

What makes a man *looking after the cattle* is doing the things he does in necessary awareness of the situation of the *cattle-farming* as a whole, thereby displaying the cattle-farmer's tautologous interest. His awareness of the situation as a whole, of how the things are going, is hardly something to be seen. Nor is the cattle-farmer's tautologous interest in his cattle-farming, or the displaying of that interest as such. As mentioned, I cannot see a man *keeping cattle*. But the implication is not, that I cannot see a man looking after the cattle. It is rather that I must first understand his situation as being that of a cattle-farmer (or, at least, a subject displaying the cattle-farmer's tautologous interest, be it the farmer himself or the farm-hand). Given this understanding, I *see* that he is looking after the cattle when I see him milk the cows, drive them out on the fields, etc.

The cattle-minder, i.e. the subject of looking after the cattle, is necessarily aware of and open towards the situation of the cattle-farming. But this situation is itself an open situation. Hence, the cattle-minder's necessary openness is an openness towards an open situation. And so, the observer's space is constituted as an *open space*. If a heifer is taken ill, the cattle-minder must call the vet, or the wise woman. He knocks on the other's door, talks to the one who knows how, and gets him or her to come and look. All this doing and telling and minding goes on in the cattle-minder's world, and it must all be incorporated in the observer's world, *as* goings on in the cattle-minder's world. But however we construct the set of such goings on, and of the practical presuppositions and consequences of such goings on, it will turn out as an open set. The observer's space of observation remains therefore an open space.

It should be clear by now, that not all that can be done can be observed, and that not all observable doings are equally easy to observe, that is, they are by their very nature not equally easy to understand from what can be observed of them. The space of observation will differ in structure with the nature of the doings being observed. The simplest structure goes with the observation of *operations*, in particular if the requirement of surveyability is built into the concept of an operation.

5. *The Practical Operation. A Definition*

With the aid of the two concepts, *the space of observation* and *the space of understanding*, we should now be able to define the concept of a *practical operation*. I shall do it via a short discussion of two examples.

(1) We still assume that the shoemaker's workshop, in some formalized version of it, is the tautologous landscape of what the shoemaker is doing when he is making a pair of shoes. And we still assume that this landscape incorporates the entire system of places occupied by the shoemaker, his implements, materials etc., and also the places otherwise involved in the making of shoes. As an example, the quality of the hammer of being suitable for hammering, localizes it (entirely) to the workshop, where the hammer is in use. That is to say, we assume that the shoemaker's workshop defines the *space of understanding* of what the shoemaker is doing when he is making shoes.

The understanding, as well as the space of understanding, remains the same, whether the subject of understanding is the agent himself or some non-agent. But the *position* of the agent and that of an observer are obviously different. If I am to see the shoemaker making shoes, I must place myself inside his workshop, or I must look into it. In the first case, I place myself in a corner, so that I do not occupy a place within the agent's tautologous landscape. I must not get in the way and I must be where I can see it all. The adequate arrangement allows him to do what he is doing, and me to see it. The agent's tautologous landscape must, all of it, be incorporated into the observer's landscape, i.e. the space of observation. In the second case, where I am not inside the shoemaker's workshop, I am also, by definition, not inside the shoemaker's tautologous landscape. I press my nose against the windowpane, taking care that I do not rob the shoemaker of the light that he needs for his work, and that I also need to observe him at work. The adequate arrangement allows him to see what he is doing, and hence to do it, and me to see him doing it. Once again, it is a question of surveyability: The agent's tautologous landscape must, all of it, be incorporated into the observer's landscape, i.e. the space of observation.

In both cases, whether I am inside the workshop or just looking into it, the agent's tautologous landscape is also the *space of understanding* — of the agent and his doings. And the observer's landscape incorporates the objects, tools, places, etc., of the agent's landscape, hereby constituting the space of observation — of the agent and his doings. Hence we conclude that *the space of understanding is totally incorporated in the space of observation*, when what is to be observed is the shoemaker making shoes. The space of observation is extensionally identical to the space of understanding *plus* a point (a place) from where the whole space of understanding *in concreto* (i.e. the tautologous landscape peopled) may be observed.

(2) Otherwise when the observation is, e.g., one of buying and selling. It is an operation all right, and its being a two-person operation is immaterial in this connection. It is also clear where I must be, if I am to see the customer buying a bag of potatoes from the shopkeeper: I must be inside the shop or looking into it. The shopkeeper's landscape must be incorporated in the observer's landscape. In fact, the space of observing an action must be just one place richer than the space of the action observed. And so far the two stories run parallel.

They part when we come to the *space of understanding*. When the customer buys the bag of potatoes from the shopkeeper the shop is the landscape of this operation. But this landscape is not capable of incorporating the entire system of places occupied or involved by shopkeeper, customer, money, commodity, etc. in the transaction of buying and selling. E.g. the quality of the money that

makes it suitable as money, i.e. for exchange, cannot be located to the shop where it is in use. It must be referred to a system of money. Analogously, the shop itself is only intelligible as a shop, in so far as it occupies a place within a money- or commodity-economy. The customer and the shopkeeper are, of course, not itinerant hooks on political economy. (It may even be a point of political economy that they are not!) But *in* the situation there is a great deal of, unspoken, necessary understanding between the two parts, as well as between each of them, or both of them, and *others* outside the shop. This understanding must also enter into my understanding of the situation, if I am to see *what* they are doing *as* that which they necessarily understand themselves to be doing when buying and selling. I see them do it, and I see them do it in the shop. But *the space of observation does not incorporate the space of understanding*. When the customer buys a bag of potatoes from the shopkeeper, the landscape of this operation is not itself rich enough to make it intelligible as a transaction of buying and selling.

Operations of type (1) are practical operations. Operations of type (2) are not.

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