

# Hegel's Science of Logic

## Demonstrated on typical mistakes of bourgeois science

### 1. Introduction

If one looks at the humanities as they are taught in universities today, from economics to sociology, linguistics and psychology to philosophy, one realizes one thing: There is a variety of theories on the same object, and these theories not only stand side by side, they contradict each other. That this doesn't really seem to bother anyone is not due to an inability to recognize the errors.

Hegel criticized the way these sciences deal with arguments, i.e. the basic patterns of their mistakes, over 150 years ago. In any case, pluralism does not exist because one would not know better. On the other hand, Hegel has not developed any recipes for correct thinking. The knowledge of the forms used by a correct and a false science helps one, for example, in the case of "insights" of science from the field of economics or politics, to recognize errors more easily. What one can learn from Hegel is his science of science itself. Hegel called this science dialectics.

### 2. Dialectics as a Method

The word "dialectics" is also known to people who have not yet read a line of Hegel. What is understood by it already shows a false conception of thinking as such: for Sir Karl Popper, dialectics are "the illusion of the false prophets", and he means something like the popular idea that dialectics are the rhetorical bag of tricks that Marxists use to cloud the brain of decent people so that they believe everything. Bloch and other proponents of dialectics see them as a process that gives hope, because everything is "more than it is", a way not to see things as they actually are, but to see them as the better possibility of themselves, as something that points beyond them.

What both positive and negative interpretations have in common is that dialectics are seen as a *method of thinking*. However, it is absurd to see thinking and arguing as a means to an end: When the result is clear, when one already knows what is to result from thinking - then what is the point of mental efforts that produce the same result? Anyone who wants to hope with Bloch should do so, and anyone who wants to sell a scam as a "false prophet" is in favour of a message that should be believed anyway. Mentally crawling back to an already established result is quite a superfluous affair.

What is still in it at Bloch and what some people expressly advocate is that dialectics as a method should at the same time be objective, appropriate to the matter. For Altvater, dialectics are "the method of criticism because capitalism is contradictory". In other words, they are a way of doing science that corresponds to the matter under investigation. But: how can one know this? One would have to have already examined the matter - without a method - in order to be able to decide which method suits it. But then the method is being cut out.

Up to this point, dialectics have been used as an example for the idea of thinking as a method at all. All bourgeois scientists, whether proponents or opponents of dialectics, have this idea. The latter have only one objection against dialectics: it is the wrong method.

### 3. Hegel's Refutation of all Methodologies

Hegel, who at the time was not yet dealing with such lowbrow stuff as is being disseminated in university today, has once and for all shown in his criticism of Kant the unfoundedness of such ideas. Kant wanted, in order to mark out the field for science, so to speak, to investigate the capacity for knowledge. Hegel about this:

*"In the second place the philosophy of Kant is likewise called a critical philosophy because its aim, says Kant, is first of all to supply a criticism of our faculties of knowledge; for before obtaining knowledge we must inquire into the faculties of knowledge. To the healthy human understanding that is plausible, and to it this has been a great discovery. Knowledge is thereby represented as an instrument, as a method and means whereby we endeavour to possess ourselves of the truth. Thus before men can make their way to the truth itself they must know the nature and function of their instrument. They must see whether it is capable of supplying what is demanded of it - of seizing upon the object; they must know what the alterations it makes in the object are, in order that these alterations may not be mixed up with the determinations of the object itself. This would appear as though men could set forth upon the search for truth with spears and staves. And a further claim is made when it is said that we must know the faculty of knowledge before we can know. For to investigate the faculties of knowledge means to know them; but how we are to know without knowing, how we are to apprehend the truth before the truth, it is impossible to say. It is the old story of the who would not go into the water till he could swim. Thus since the investigation of the faculties of knowledge is itself knowing, it cannot in Kant attain to what it aims at because it is that already - it cannot come to itself because it is already with itself; the same thing happens as happened with the Jews, the Spirit passes through the midst of them and they know it not." (G.W.F. Hegel, History of Philosophy, Volume III, Section 3: Recent German Philosophy, B. Kant)*

That is the circularity of such an undertaking: If one regards thinking as an instrument and wants to know whether this instrument is suitable for finding out the truth about certain things, what else can one do than - to think, to use one's mind which one first wants to test, and to rely on it. But then there is no need to test it first. However, if one wants to maintain that the suitability of thinking is an open question, then the result of the investigation is worth nothing. The object to be tested cannot be the inspecting authority at the same time.

This is Kant's idea of the situation: Thinking is a tool – spears and staves, says Hegel - with which one takes mental control of the world. It works on its object, and the change that thus is made to the latter has to be accounted for.

But he has set himself an impossible task, because he would have to be able to compare reality outside of thinking with reality grasped by thinking in order to determine the deviation that is caused by thinking. From which standpoint should he be able to make the statement: Oops, this thing is actually different than the way my consciousness presents it to me?

Here a fictitious yardstick is set for thinking - correspondence with reality, a yardstick that cannot be applied. And that is only good for one thing: to cast a baseless doubt about thinking into the world. A doubt that must remain unfounded. Skepticism is an untenable matter, because one can only ever prove determinate errors in thinking, but never the suitability or unsuitability of thinking as such. (Exactly: suitability in relation to what?)

Marx says the same in his second thesis on Feuerbach:

*"The question whether objective truth can be attributed to human thinking is not a question of theory but is a practical question. Man must prove the truth - i.e. the actuality and power, the this-sidedness of his thinking in practice. The dispute over the reality or non-actuality of thinking that is isolated from practice is a purely scholastic question." (MECW Volume 5, p. 6)*

In a science that thinks about real objects and delivers results that can then be applied in practice, the question does not arise at all. And whether thinking touches reality at all, whereby one probably imagines thinking as woolgathering separate from actuality, others should rack their brains over it.

The whole problematization of the relation between thinking and the world is fruitless, since the difference of both can only be determined as possibly existing (but possibly not either), and, as far as knowledge is concerned, a practical consequence of a difference that cannot be grasped cannot be stated.

#### 4. "Limits of Knowledge"

Hegel continues his criticism of Kant:

*"But on the other hand, since this knowledge is self-confessedly knowledge only of appearances, the unsatisfactoriness of the latter is admitted, but at the same time presupposed: as much as to say that admittedly, we have no proper knowledge of things-in-themselves but we do have a proper knowledge of them within the sphere of appearances, as if, so to speak, only the kind of objects were different, and one kind, namely things-in-themselves, did not fall within the scope of our knowledge but the other kind, phenomena, did. This is like attributing to someone a correct perception, with the rider that nevertheless he is incapable of perceiving what is true but only what is false. Absurd as this would be, it would not be more so than a true knowledge which did not know the object as it is in itself.*

*The criticism of the forms of the understanding has had the result already mentioned, that these forms do not apply to things-in-themselves. This can have no other meaning than that these forms are in themselves something untrue. But then if they are allowed to remain valid for subjective reason and experience, the criticism has not produced any alteration in them: they are left in the same shape for the subject knower as they formerly possessed for the object. If, however, they are inadequate for the thing-in-itself, still less must the understanding to which they are supposed to belong put up with them and rest content with them." (G.W.F. Hegel, Science of Logic I, § 44 f.)*

That cannot be, says Hegel, that the recognizing subject *knows* that it only recognizes phenomena, that its thinking has a barrier beyond which it cannot go. *One cannot know that one is mistaken.* This is only known after the fact, when the mistake has already been cleared up. Kant, on the other hand, claims that the inadequacy of knowledge is *not* done with the fact that he found out about it. He plainly asserts the contradiction - which has remained popular to this day - that human knowledge is necessarily inadequate. Hegel resolves this contradiction in two directions:

If "only" knowledge of phenomena is possible for man, then he cannot know anything about a "thing in itself" either, and the assertion that such a thing exists is unfounded. On the other hand, if Kant's investigation of determinate categories of thought, "forms of mind," has shown that they are deficient and do not fit the matter, then he should not say that these categories are necessary either. Then these are not the appropriate categories of knowledge. If one already knows that they are defective, then one is no longer entangled in them, then one will surely be able to go further and determine the defect they have.

Not the cognitive faculty is to be questioned on principle, but there are wrong patterns of thinking that are to be investigated and criticized. And this can only be done by measuring them by themselves, not by comparing them with "reality", but by checking whether they achieve what they are aiming for. That is the only real task that arises here.

Hegel's discovery was that the fundamental doubt in thinking is in conflict with the elimination of errors. Modern philosophy of science consists entirely in the declaration of reservations against thinking. Strong claims are no longer being made. Is it not enough to point out the basic "*possibility of error*" (Popper)?

This precisely does not mean that mistakes are to be cleared up. If one places all thoughts under a completely abstract suspicion, then one does not want to distinguish between right and wrong thoughts. Then everything is accepted - with grave concern - but not a criticism that makes this distinction.

## 5. Forms of Undialectical Thinking in Ruling Science

### 5.1 Force, Drive, Talent, Ability

Anyone studying any discipline in the humanities knows these categories: Political science says: "Man is a state-forming being." It has an inherent predisposition, a drive to the state. Pedagogy explains what becomes of a child, of its talent. And psychology has leased the categories of force/drive as such: There is the drive of aggression that is responsible when one person steps on the other's shin, the drive of love, that leads to love, the drive of death, that leads to death. Intelligence is explained like this, for example:

*"The very large number of available definitions of intelligence essentially emphasize four facts: 1. that it is a talent or a group of talents that a living being can possess to a greater or lesser degree; 2. that this ability makes it possible to solve concrete or abstract problems and thus to deal with new situations; 3. that it largely dispenses with the mere trying around and learning from its accidental successes; 4. that this talent manifests itself in the identification, application, interpretation and creation of relations and contexts of meaning." (Translated from the Fischer Lexikon Psychologie, p. 172)*

What do we know about intelligence now? Intelligence is explained here as a talent for solving problems, understanding contexts etc., i.e. as intelligent behaviour. The explanation has made only formal progress. Intelligence now exists twice: once as behaviours that the psychologist wants to have determined in this way and secondly as a talent that consists in nothing else than producing the behaviours to be explained. The content remains an empty space - something else could be put in for intelligence. The point is that it is produced, brought forth.

This logical figure is apparently capable of inventing things that don't exist. The intelligent behaviour, which is explained by the ability to do so, is indeed already a strange occupation. It seems to be something similar to thinking, but not the same. Apparently in any activity one can behave intelligently or not. And how does intelligent action differ from non-intelligent action?

It is intelligent when one masters the activity, when one does not try around, but proceeds systematically, has the overview, and when the result is also what is to result.

But to distinguish ability from inability is not what this theory aims at. It wants to declare ability to be an *independent* characteristic alongside the activities that exist. It invents a comprehensive know-how that is not one *of* anything. It is inseparable from determinate activities, but the assertion that it *manifests* itself in them creates it as an extra thing, a thing about which nothing has to be said, because a force cannot be had and grasped other than in its manifestation. Nevertheless, it vouches for something *differentiated* from it. And that is the advantage of this category for thinkers who want to *invent* things, in this case a human trait that is responsible for getting some people in the world further than others. Anyone who has learned nothing simply does not have the necessary talent. The social institutions that have specifically excluded him from education are thus off the hook. This category is attractive for a false science because of its shortcomings, its specific unscientific nature, which Hegel, who cannot however imagine why it is still used, explains like this:

*"It is often said that the nature of Force itself is unknown and only its manifestation apprehended. But, in the first place, it may be replied, every article in the import of Force is the same as what is specified in the Expression: and the explanation of a phenomenon by a Force*

*is a mere tautology. What is supposed to remain unknown, therefore, is really nothing but the empty form of reflection-into-self, by which alone the Force is distinguished from the Expression — and that form too is something familiar. It is a form that does not make the slightest addition to the content and to the law, which have to be discovered from the phenomenon alone. Another assurance always given is that to speak of forces implies no theory as to their nature: and that being so, it is impossible to see why the form of Force has been introduced into the sciences at all." (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 136)*

The *form* of explanation is already achieved with this category: One goes beyond what one asserts in the world and shows something similar to a ground, something that determines the thing in question (reflection-in-itself). But what is supposed to explain the matter is completely empty in terms of content. Force has no other characteristic than that of *bringing forth* the thing. The formal difference between force and expression suggests a progress in content, but this does not take place at all. And where this mental figure is used, it does not at all serve as an explanation, but rather to give an inconsistent idea a rational external form. It is always the assertion that a thing has no other explanation than itself and thus either the opposition to an actual explanation, as in the case of the statement "Man is a State-forming Being" or, as in the case of aggression and intelligence, the denial of the irrational character of invented things.

The category of force-expression also reveals its deficiency "in itself". Its application always raises the question why force produces this expression *just now*. So, if aggression is claimed as a universal disposition of a person, then the question inevitably arises: Why is he then not always aggressive? If it's inside him, it's got to come out apparently. Why in this case and not at any other point? On the other hand, force, which in its content is nothing other than expression, does not correspond at all to expression. For any determinate expression, force is too universal as an explanation. Example: A child is good at math, it is intelligent. Then it should be able to spell well, and it can't. Well, maybe it only has a 'mathematical intelligence'. - Now one has the choice, whether one wants to immediately say: it can simply calculate, or whether one wants to claim nevertheless still an extra ability, which is responsible for being able to calculate, then the game continues. The correspondence of force and expression must always be proven first. Since force is supposed to be something independent in relation to its various expressions, it never blends into them and always "explains" them inadequately. *Other* factors must therefore be responsible for ensuring that it expresses itself in this way and not in any other way. And now where is the explanatory value of force?

*"The finiteness of force is also evident in the fact that it needs solicitation<sup>1</sup> in order to express itself. That which solicits the force is itself an expression of a force which, in order to express itself, must also be solicited. In this way we again get infinite progress."*

Psychology and pedagogy actually continue in this logic and hold on to the correspondence of force and expression to such an extent that they invent another "impulse" that causes the force to express itself: A *stimulus* must act on the aggressive person to make him truly aggressive, and intelligence must be "*awakened*" so that it does not remain buried for a lifetime.

The pair of categories of force-expression, in which the matter and its explanation are on the one hand identical in content and on the other completely fall apart, performs only a formal - only the appearance of - necessity. There is a transition in the fact that it is not the force that determines whether the expression comes about: it does not bring forth the thing at all, the thing is not *necessary* through *it*, but only *possible*.

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<sup>1</sup> "Awakening", triggering

## 5.2 Possibility

The question "Is it possible...?! often evokes Radio Yerevan answers in ordinary life: "In principle, yes, but..."<sup>2</sup> This is already a hint at the shortcoming of the category possibility, which is very common in the ruling science. Everything is possible - or not.

"The Possibility of Science" is the title of a book by Mittelstraß, a title that could be written above all epistemology. "The Possibility of Upbringing" is the subject of pedagogy.

Let's start with an example from political science:

*"The opposition's primary task is to show the voters alternative possibilities and thereby enable true elections to be held."* (Translated from Fränkel, Fischer-Lexikon Staat Politik)

It is easy to overhear here that the *significance* of the opposition is emphasised without one being told anything about it or elections. The opposition in democracy is supposed to be wonderfully important, because if there were no *possibility of choice*, one could not really choose between alternatives, no - true - *election* would come about.

Again, one thing occurs twice: Once as a starting point, as something that *ought to be*, that is presumed as undoubtedly desirable, and then again as something that makes it possible.

In contrast to the category of force-expression, however, here the matter is not simply thought of as internal or external, but put in relation to *its* identity. What makes a thing possible is not simply itself again, but what is decisive for it, without which it would not be what it is. In our example: It depends on the opposition whether a *true* election, an election in the proper sense results, in contrast to a merely staged one.

The actual thing, that is made possible by something essential for it, is always questionable in this figure of thought on the one hand, and is something that ought to be, something for which one takes sides on the other. Mittelstraß, too, will not have simply thought of the science that exists in his book on the possibility of science. The question "can it exist?" would not arise. He thus thinks of an authentic, "true" science and identifies something essential for it - for him, it is language. So, the starting point is always an ideal: the thing is something I wish for. But now I am not just saying how I would like it to be, but claim that it *contains* (as a possibility) what is important (to me). Separation of reality and identity of an object is suitable on the one hand for the invention of *ideal* objects (e.g. the perfect upbringing, which properly corresponds to the child), and on the other hand as a compliment to objects that would not be what they are without their identity.

*"Neoclassicism would be inconceivable without Goethe."*

Well, isn't Goethe and neoclassicism almost the same thing anyway? Exactly: without Goethe it simply wouldn't be what it is. Here it is not a question of inventing a fine Neoclassicism alongside the lousy reality, but of putting its identity at risk in a fictitious way, in order then to state with satisfaction that it does *have* it after all, thanks to Goethe. In every case, the identity of a thing is being put into question so that it can then be assigned to it.

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<sup>2</sup> Radio Yerevan jokes have been popular in the Soviet Union and other countries of the former Eastern bloc since the second half of the 20th century. These jokes of the pretended to come from the Question & Answer series of the Armenian Radio. An example of a Radio Yerevan joke is:

Radio Yerevan was asked: "Could an atomic bomb destroy the beautiful city of Yerevan?"

Radio Yerevan answered: "In principle, yes. But Moscow is by far a more beautiful city."

This can also be done as a *criticism* of the object discussed, a criticism that is therefore just as unobjective as taking sides with it. Opponents of the census argued:

*"Deanonymisation is possible."*

and specifically did not mean to claim that oversight of the questionnaires was the end or intention of anyone in the census. Explicitly distinguished from this, the decisive factor of the matter, that which proves its "actually" anti-citizen character, is identified. One "only" wants to warn against a possibility - and thus asserts that this point would be very crucial, because in any case it is *contained* in the thing. But the weakness of arguing with possibilities is also obvious here: A mere possibility, that's something to get upset about? It is not what constitutes the actual thing, after all!

The possibilities are endless! Without Goethe no Neoclassicism? But probably not without Herder either. And not without Winkelmann. And...

Hegel about this says:

*"As Possibility is, in the first instance, the mere form of identity-with-self (as compared with the concrete which is actual), the rule for it merely is that a thing must not be self-contradictory. Thus everything is possible; for an act of abstraction can give any content this form of identity. Everything however is as impossible as it is possible. In every content - which is and must be concrete - the speciality of its nature may be viewed as a specialised contrariety and in that way as a contradiction. Nothing therefore can be more meaningless than to speak of such possibility and impossibility. In philosophy in particular, there should never be a word said of showing that "It is possible", or "There is still another possibility", or, to adopt another phraseology, "It is conceivable". The same consideration should warn the writer of history against employing a category which has now been explained to be on its own merits, untrue: but the subtlety of the empty understanding finds its chief pleasure in the fantastic ingenuity of suggesting possibilities and lots of possibilities." (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 143)*

Since it grasps identity separately from reality, abstract identity, this category allows for woolgathering. The possible, which only must not be contradictory in itself, can be thought up at will. One just has to omit everything fundamental from an actual thing. Why shouldn't it be possible for the Turkish emperor to become pope? He is a man after all and can convert to Christianity, can become a priest, etc.. Conversely, you only have to identify a contradiction in an actual thing, and it is impossible. Science is not possible, for subject stands against object there. War is not possible, for it harms the one who causes it.

Whoever wants to explain something actual makes a step backwards if he cites the possibility of it. Actuality always contained the possibility. What exists *could* well exist after all. On the other hand, possibility does not suffice to bring forth actuality: *not everything* that is possible becomes reality. This is rather *accidental*. Anyone who says: nuclear war is possible, knows *no* ground why anyone should start it. That is why this warning is comforting. For if war is only possible, then its non-occurrence is just as possible. Each possibility contains a reference to its opposite. The category sublates<sup>3</sup> itself: "possible" always means at the same time: "or not". Possibility, a form of explanation that aims at the essential, at the identity of the matter, ends up with just the opposite. The identity of the thing dissolves: it can be or not, it can be this way or different. It is not necessary, it is accidental.

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<sup>3</sup> Sublation, sublatare: Translation for the German *Aufhebung* and *aufheben*, meaning "to lift up", "to abolish" and to "preserve" in one word. Hegel plays on those different meanings in his work.

### 5.3 Condition

The possibility as the essential of a thing does not bring forth the thing at all out of itself. The thing stands or falls with the fact that another thing is present. Its *actual* possibility is the *condition*.

*"This actuality which constitutes the possibility of something is therefore not its own possibility, but the in-itself of another actual; it is itself the actuality which ought to be sublated, possibility as possibility only. Thus real possibility constitutes the totality of conditions, a dispersed actuality which is not reflected into itself but is determined as being the in-itself, but the in-itself of an other, and as meant to return back into itself."* (G.W.F. Hegel, Science of Logic I, § 1213)

This category also enjoys great popularity in bourgeois science. For example:

*"In the spirit of economic rationality, the French Revolution completed the modern centralist administrative state... Only modern technical means of transport and communication, which unleashed the bureaucratisation process of the century, created the prerequisite for the disposition of the state's means of power, without which the emergence of the modern state would be inconceivable."* (Translated from Fischer-Lexikon: Geschichte, S. 215)

No modern state without telegraph and railways! An explanation of the state? The term "condition" suggests a more rigorous connection of explanation and the explained: if the condition is given, the thing - actually - comes into being. Regarding content, with this category completely external conditions are brought up. The category *demand*s a second thing to explain the first, after all. But that's a contradiction. If I state something as a condition that has nothing to do with the matter, then it cannot bring it about either. The category is only suitable to separate relatively arbitrary (also invented) moments of a thing - modern technology *somehow* also belongs to the modern state - from it and to congratulate them as a trigger (it should not be the essence of the thing at all) on which the existence of the whole depends. Whereby the congratulations again contain that the conditional is assumed to be unquestionably good.

The contradiction that the condition is at the same time something independent vis-à-vis the matter, but on the other hand is completely absorbed in it, gives rise to the "problem" with this category. The condition is always only one of many moments, relations, in which the matter stands. There are always other conditions. No modern state without railways? But not without parliament, credit, colonies, conscription... either. Only the *complete* range of conditions actually brings about the thing. At the same time, the things that are stated as conditions have no connection as such, are scattered circumstances, so that one never knows when the list will be finished.

### 5.4 Function

The externality of the relation, which is indicated with condition, is surpassed by a modern invention of which Hegel had no idea yet, by the category *function*.

The difficulty of the categories discussed so far: To explain a thing by itself is tautological, to explain it by another is a contradiction; this difficulty is "solved" the category "function" by taking the formalism of the explanation to extremes through a *relation*: One simply must not claim a determinate relation at all!

For the sake of brevity on this category, which has given a whole scientific branch its name, sociologist Käsler:

*"The RAF<sup>4</sup> had the function of promoting the introduction of forgery-proof ID cards."*

If he had said that the *end*<sup>5</sup> of the RAF was to provide forgery-proof identity cards, one could oppose him. If he'd said that it was the *ground*<sup>6</sup>, there'd be some objections. Even against *condition* one could still take a stand: One condition maybe, but... You can't really say anything about "function" anymore. The assertion: There is a connection, is simply uncriticisable, because only in form something is claimed at all. If one asks what exactly the RAF had to do with the forgery-proof ID cards, one will surely get the answer that the ID cards might have existed even without the RAF, that the federal government did not necessarily introduce them because of the RAF, but that the RAF had *somehow* promoted the matter, nobody could deny that. And that's apparently what it's all about: the uncriticisable creation of links. Anyone who argues in this way *knows* that he finds connections where they are not and therefore does not want to be pinned down.

One thing is 'good' for another. That is to say, neither means nor condition nor ground. In contrast to the *false* explanations that come about through 'force', 'possibility', 'condition', here there is no longer any *will to explain*. The statement that something serves a higher purpose, which is not apparent to it at all, acquires a scientific form with 'function'.

Having a function expressed as a property of the thing is called a 'factor', e.g.:

*"There are a limited number of talent factors (F1 ... F4) which are determined to varying degrees for the different (intelligence) performances."*

So: Talent is something that contributes to intelligence, whatever and however much. And of course, other functions also play a role for intelligence... In any case, intelligence is a thing to which quite a bit contributes. It would certainly be too much to ask the scientist to say *what* it actually is, i.e. *to what* contributions are being made there. Because he can't do that until he has all the factors together.

## 6. Ground-Result, Cause-Effect

Afford ground<sup>7</sup>; The Why-Question

To afford ground is almost a synonym for scientific explanation, just as causality is considered the model of rigorous science. It is a well-known fact that it is only with these categories that we are moving into the realm of *necessity*.

And that is why there is hardly any talk of causes and grounds in bourgeois science. Today's thinkers prefer the unscientific of force, possibility, condition, which puts the thing into relations in which it appears as something accidental, something that can be or not. Anyone who states a ground, a cause, says that this is why it exists and *must* exist. This is anti-pluralistic and is being combated:

An explanation would be *monocausal*, is an accusation. How can one trace a thing back to one thing when it is *complex*. That is the imperative, not to provide an - unambiguous - explanation. Complex, my ass! How do they know it's not mono?

For the humanities, the rule is that causality is not possible here. Not to explain, but to understand would be the thing to do. Again, with the circular claim that the matter would require a determinate kind of explanation it is forbidden to find the actual reasons, instead of the *good* reasons.

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<sup>4</sup> Red Army Faction, also known as the Baader-Meinhof Group. A West German far-left militant organization that was engaged in a series of bombings, assassinations, kidnappings, bank robberies as well as shoot-outs with the police. Active between 1970 and 1998.

<sup>5</sup> The translator here chose to use Hegel's terminology. One could also say "purpose".

<sup>6</sup> Again, a word Hegel uses. Another possibility would be "reason".

<sup>7</sup> Translation for the German "begründen", which means to justify, to give a reason, to substantiate.

In philosophy, namely in the philosophy of science, explaining is the topic. And it always turns out that it *would be possible*, if... Hume's puzzle is still gold there: he asks himself: What actually *connects* cause and effect? In doing so, he loses sight of the relation completely and imagines two events that have nothing to do with each other except that they happen one after the other, finds no connection and comes to the conclusion that it is a mental habit of man to read a necessity into a frequent sequence of events and to attribute the melting of wax absolutely to fire. Modern theorists come up with "models of causal explanation" or provide "linguistic tools" and thus turn explanation and affording ground into an ideal before which any actual science looks bad.

On the other hand, it is precisely in philosophy where the categories ground and cause are used, because it pursues its metaphysical enterprise with a *pathos* of rationality. The categories lend themselves to this as well.

In the following, ground and cause are to be treated together, although they are not quite the same. They behave more or less like possibility and condition. Ground is thought as something internal, cause as something external, a thing.

In ground the identity of a thing is no longer related to its - manifold - actuality. Ground rather already contains the thing as a whole. When I ask for the ground, I do not want to put it in a nutshell which is decisive for it - as an actual one - but I want to know what brings it about as a whole, with its different moments. But that shows the difficulty right away:

*"The ground is a ground only to the extent that it affords ground: but the result which thus issued from the ground is only itself. In this lies its formalism. The ground and what is grounded<sup>8</sup> are one and the same content: the difference between the two is the mere difference of form which separates simple self-relation, one the one hand, from mediation, or derivativeness on the other."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 121)

The earlier contradiction: the thing is not being resolved in its conditions, in an ability or possibility of its existence, is now sublated. Ground and what is grounded *are* identical. But this immediately leads to the same contradiction on a new level. The same content occurs twice, and so ground is also a formal category in which the content is omitted.

Example: What is the ground of unemployment? Let's say: the economic situation or: the dollar exchange rate. These are, strictly speaking, inadequate answers. Now *something else* has been brought up and the question arises once again as to what exactly these things have to do with unemployment. The economic situation and the dollar exchange rate could just as well be grounds for another phenomenon, and unemployment could also have other grounds. What is demanded, that the ground explains exactly this phenomenon, no more and no less, is not achieved like this. There is only one way out: the ground for unemployment is the poor employment situation. Now the ground given is something that is nothing more and nothing less than the thing itself, the most rigorous connection, total identity is established. But that's no explanation at all. One wanted to know something and knows nothing. It is precisely the "rigour" of the category that results in its unattainability: What is demanded is something other than the phenomenon to be explained and *simultaneously* the very same thing, there is nothing in between. Ground is the contradiction of identity and non-identity. The question of science *cannot* be the why-question, its technique cannot be *tracing back*.

Where "ground" is used, it is the technique of changing objects or transforming one thing into another. Another prominent example: Max Weber *traces* capitalism *back* to Protestant ethics. Obviously, capitalism and religion are two very different things. Without further appreciation of the book, one

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<sup>8</sup> For what reasons are being given.

can formulate the task that it ought to fulfil and cannot possibly fulfil: The proof that capitalism is ultimately nothing else than Protestantism. Credit and interest, a religious phenomenon? Is crisis already anticipated in this faith too? etc.

Consequence, continuation of the shortcoming of the category is the infinite process. On causality, Hegel says:

*"Both cause and effect are thus one and the same content: and the distinction between them is primarily only that the one lays down, and the other is laid down. This formal difference however again sublates itself, because the cause is not only a cause of something else, but also a cause of itself; while the effect is not only an effect of something else, but also an effect of itself. The finitude of things consists accordingly in this. While cause and effect are in their motion identical, the two forms present themselves severed so that, though the cause is also an effect, and the effect also a cause, the cause is not an effect in the same connection as it is an effect. This again gives the infinite progress, in the shape of an endless series of causes, which shows itself at the same time as an endless series of effects."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 153)

Cause and effect have the same content: rain makes the soil wet, rain and wetness on the road are the same water. Fire makes the wax melt - both the same heat. The difference is only formal, that of the independent and the dependent. Now that the effect has the same content as the cause, one can also say that the cause brings about itself. But that is already thinking beyond the category. One can no longer use it like that. It itself records the difference in such a way that although everything that is effect can be cause as well, but not simultaneously in the same relation. The fire that causes the wax to melt is itself caused, but again by something else. In this way, infinite chains of causes and effects can be constructed. The same content can be seen as cause or effect. This simply has nothing to do with it, but is only the perspective of the observer.

This shortcoming is used by metaphysicians for their idea of *causa sui*, the last ground for everything.

*"Reason (is urged) to seek somewhere for a resting place in the regress from the conditioned, which is given, to the unconditioned, which in itself and as regards its mere concept is not indeed actually given, but which alone can complete series of conditions carried out to their grounds. [...] If something, no matter what, exists, then it must also be conceded that something exists necessarily. For the contingent exists only under the condition of something else as its cause, and from this the same inference holds further all the way to a cause not existing contingently and therefore necessarily without condition. That is the argument on which reason grounds its progress to the original being."* (Immanuel Kant, Critique of Pure Reason, A 584/B 612)

If every cause is caused on its part and so on, then there is no cause at all, so it is concluded; there are only dependent things and nothing on which they depend on. So, there must be an original being that is its own ground and brings forth everything else. The idea is wrong, for with equal justification one could turn it around and say: If everything is cause of something else, all effects dissolve into causes again, then there are only unconditional things and nothing dependent. Both are an impermissible hypostasis. The world is not as full of effects or causes as it is full of things. Not everything that happens is tied to a chain. This is how a logical category usurps the universe. They have this idea with other categories either: The whole world is positive, where is the negative; quantitative, where is the quality?

The shortcoming of the category - it proves a thing to be relatively necessary - lends itself to the "proof" that reason must take leave somewhere and become faith. The infinite progress, which now shows

that the category is no good, becomes the property of reason itself, which never finds its feet if it does not give up itself.

*"Why is there something at all and not nothing?"* (Martin Heidegger, What is Metaphysics?)

Heidegger also believes that the endless chain of effects and reasoning must end somewhere. He does not ask: what is the ground for this thing?, but: what is the ground for "something"? But "something" has no ground. Anyone who asks in this way *claims* that there would be a point at which "rational" thinking ceases.

## 7. What is Science: Concept<sup>9</sup>, Judgement, Syllogism<sup>10</sup>

### 7.1 The Concept

*"[The concept of necessity is very difficult]. It is difficult because it is the concept itself, ... When anything is said to be necessary, the first question we ask is: Why? Anything necessary accordingly comes before us as something due to a supposition, the result of certain antecedents. If we go no further than mere derivation from antecedents, however, we have not gained a complete concept of what necessity means. What is merely derivative, is what it is, not through itself, but through something else: and in this way, it too is merely contingent. What is necessary on the other hand, we would have to be what it is through itself: and thus, although derivative, it must still contain the antecedent whence it is derived as a vanishing element in itself. Hence we say of what is necessary, 'It is'. We thus hold it to be simple, self-relation, in which all dependence on something else is removed."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 147)

Science, says Hegel, means recognising the necessity of a thing. The why-question is not quite the right way, as long as it only aims at knowing the matter as mediated, as determined by something else. The result, as we have seen, is only a relative necessity. The thing stands and falls with its ground, its cause. The necessary, however, is mediated, but not by something else, but by itself or it contains its own ground. The why-question dissolves into the what-question. Science asks: What is this? And aims at the *concept* of the object.

What a concept is, is nowadays largely unknown. Modern philosophy of science fights the concept at a level where it has no place at all, at the level of language. For it, concepts are nothing more than words, and with words the case is the following:

*"Language serves people to talk about the world and, for example, to reflect facts that exist in the world through meaningful sentences in the medium of language. In order to establish the required connection between language and world, the words must designate things in the world... A word that designates nothing is empty, it has no meaning. Words that mean nothing are therefore words for which there are no objects. Words that denote something on the other hand mean something."* (Translated from E. v. Savigny, The Philosophy of Normal Language, Frankfurt am Main 1980, p.15)

Savigny describes the direct reference theory of language, to which there are also opposing positions, but which amount to the same thing, namely to deny the universality that the language already provides. It is not correct that the meaning of words are "things in the world". This way, the "connection between language and the world" becomes enigmatic in the first place: A mindless sound chain and my living room cupboard never converge. One can talk about things - and not only things -

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<sup>9</sup> Translation of the German *Begriff*, sometimes also rendered "notion" in English. The original term has the particularity of meaning something that is grasped, or understood, in the mind, which is frequently played on.

<sup>10</sup> Translation of the German *Schluss*. An alternative would be "conclusion" or "inference".

in the world only because the *image*, which a word designates, has already moved away from the immediately existing which one takes up with the senses like that. "Cupboard" isn't that big thing over there in the corner. (How could you even have a conversation if every cupboard in the world had a different name!) In this case, the word refers to an elevated box with doors in which something is stored. How many doors and whether it is made of walnut or oak is unimportant. That can be said separately. A word describes the universal determinacy of things and not just things. There are also words for things that don't exist. The word "Pegasus" also has a meaning that someone who does not know it can say: a winged horse, which also makes it clear that this does not "exist" in the same way as table and cupboard.

Philosophy of science wants to enlighten and put an end to "fictitious problems", it wants to oblige thinking to objectivity. And it does that by simply banning thinking about anything one can't touch. For it, "God" and "capitalism" are one and the same: words that mean nothing. Thus, on the one hand, metaphysics and religion become uncriticisable, while science becomes pure speculation on the other.

Where the concept is allowed, it is immediately something completely different, e.g. *a class*. And a class is the set of all things that are embraced by it. The class and its specimens are mutually determined by one another. As what should one classify things then, which do not have a commonality themselves? Here, too, the universality of the concept is forbidden by an interpretation that is linked as an individual one. But there is another way too:

*"A concept is the meaning of a term. The meaning of a word is what the word conveys on the basis of agreement."* (Translated from Kamlah/Lorenzen, Logical Propaedeutics, p. 86)

A term, a scientific expression, has indeed a universal meaning for logical propaedeutics. But what does it consist in: it is not the universal of a thing, but agreed upon by subjects. Then what's the point of science? Then one just decides what is to be understood by "capitalism", "morality" or "gravity" and is finished. Universality is not banned in philosophy of science only if it is separated from objectivity. The objectivity of language and thus of thought lies for it in the "reflection of facts that exist in the world". Science is also superfluous on that side.

*"Some acquaintance with its objects, therefore, philosophy may and even must presume, that and a certain interest in them to boot, were it for no other reason than this: that in point of time the mind makes universal images of objects, long before it makes concepts of them, and that it is only through these mental images, and by recourse to them, that the thinking mind rises to know and comprehend thinkingly."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 1)

Science presupposes an acquaintance with its objects. One can only examine what one knows. Whether Catholicism, democracy or the dollar, we already have an image of all these issues. (It happens with some objects that one knows them so insufficiently that one first has to collect material, but this is then a pre-scientific matter. To notice is not yet to explain.) The sole task of science is to give these images their necessary content, to separate the necessary from the accidental moments.

Before science, the thing is first a word: Catholicism. However, one already knows something with this, namely that somehow everything belongs together there: the Pope, the Mother of God, Latin prayers, celibacy, etc. One can already distinguish Catholicism and Protestantism and also Catholicism from the rest of the world. What does science need to do now: To determine the peculiarity of the thing, which one knows abstractly as one, and to bring it into a relation of content to the most diverse moments, which one already knows as well.

*"The concept is universally associated in our minds with abstract universality, and on that account it is often described as a universal conception. We speak, accordingly, of the concepts of colour, plant, animal, etc. They are supposed to be arrived at by neglecting the particular features which distinguish the different colours, plants, and animals from each other, and by retaining those common to them all. This is the aspect of the concept which is familiar to understanding; and feeling is in the right when it stigmatises such hollow and empty concepts as mere phantoms and shadows. But the universal of the concept is not a mere sum of features common to several things, confronted by a particular which enjoys an existence of its own. It is, on the contrary, self-particularising or self-specifying, and with undimmed clearness finds itself at home in its antithesis. For the sake both of cognition and of our practical conduct, it is of the utmost importance that the real universal should not be confused with what is merely held in common."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 163)

The universality of the concept is not abstract universality, the merely common, which is obtained by omitting differences to which then there is no way back. The universal of the concept on the contrary is the principle that governs the particularities that therefore also arise *from it*. There are many things to be grasped by capitalism or "capital". Once it has been determined as self-valorising value, then one can also continue to ask in which forms this *can* only exist.

*"The particular contains universality, which constitutes its substance; the genus is unaltered in its species, and the species are not different from the universal but only from one another. The particular has one and the same universality as the other particulars to which it is related. At the same time, by virtue of the identity of the particulars with the universal, their diversity is, as such, universal; it is totality."* (G.W.F. Hegel, Science of Logic II, § 1336)

Through the difference of the particularities from the universality, the concept is individuality, that is, the actual concrete thing:

*"Determinateness in the form of universality is linked with the universal to form a simple determination; this determinate universal is the self-related determinateness; it is the determinate determinateness or absolute negativity posited for itself. But the self-related determinateness is individuality. Just as universality is immediately in and for itself already particularity, so too particularity is immediately in and for itself also individuality; this individuality is, in the first instance, to be regarded as the third moment of the concept, in so far as we hold on to its opposition to the two other moments, but it is also to be considered as the absolute return of the concept into itself, and at the same time as the posited loss of itself."* (G.W.F. Hegel, Science of Logic II, § 1338)

In the various forms of the universal content, the thing is identical to itself, remains and is *one*. Capital universally only exists as commercial capital, interest-bearing capital and productive capital. But its particular forms are also distinguished from the universal: an external reality in contrast to their own internal principle. The particularities do not coincide with the universal and are thus "on the other side" determinations of a concrete individualism. Because the universal gets a particular content, it relates "to itself" as the content of something that is for itself nothing other than one thing that is real and differentiated from all others: absolute negativity.

This is the "return" of the concept "into itself" and its "loss". Thus, for example, the AEG<sup>11</sup> is on the one hand exactly the same as capital as such and everything special about it can be traced back to this

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<sup>11</sup> Short for Allgemeine Elektrizitäts-Gesellschaft AG (German: "General electricity company") was a German producer of electrical equipment, until its brand rights got acquired by Electrolux in 1996.

universal. There is no difference in content, on the other hand it is totally distinguished from it as a concrete, actual specimen. Concept and thing are also *not* the same, are facing each other.

This is not a deficiency at all. The separation of concept and reality is sublated just in such a way that the concept contains reality as its own, albeit negative, moment in itself, precisely through the difference the universal principle "meets" reality. The "problem" that the individual can never be completely grasped by universal concepts - *individuum est ineffabile* - is based on the one-sided attachment to the antagonism: As many universal determinations as one may list, one never leaves the sphere of the universal. The "bridge" of the particular, the difference to the universal, which it itself contains, is overlooked, if nothing else is of interest than the difference in form between thinking and world. *This* really cannot be bridged as such. Man is not God, from whose spirit things materialize.

This also shows, however, that the concept as such is nothing finished at all. Universality, particularity, individuality collapse and fall apart in it. It does not say this relation that it contains. If one wants to say the concept of a thing, one again ends up with the *word* on one side, a *known* content on the other.

One can only say it as the dissociated relation between identity and content, in which both however, are also identical: as judgement.

## 7.2 The Judgement

Modern philosophy of science no longer knows the judgement either, it only knows propositions. But then science and literature no longer differ. Of course, they both use language, but they have something else as their content. Science is about the concept of a thing and this requires a logical form: the judgement. For the judgement it is relatively irrelevant in which type of proposition it is expressed. Conversely, a proposition usually contains a subject and a predicate, but only a determinate relation between subject and predicate makes a proposition a judgement. However, question- and command-propositions are excluded from the outset for example because they contain a relation between subject and predicate that is at odds with the judgement.

*"A judgement is however distinguished from a proposition. The latter contains a statement about the subject, which does not stand to it in any universal relation, but expresses some single action, or some state, or the like. Thus, 'Caesar was born at Rome in such and such a year waged war in Gaul for ten years, crossed the Rubicon, etc.', are propositions, but not judgements. Again it is absurd to say that such statements as 'I slept well last night' or 'Present arms!' maybe turned into the form of a judgement." (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 167)*

Nowadays the logic books contain propositions such as "Werner is out of town" or "Friedel is singing". In these propositions, the predicate is an accidental circumstance. Werner might come back and Friedel will be quiet once in a while. One cannot argue for or against such propositions. They're none of science's business. What do judgements look like, then?

*"In its abstract terms a Judgement is expressible in the proposition: 'The individual is the universal.' These are the terms under which the subject and the predicate first confront each other, when the functions of the concept are taken in their immediate character or first abstraction. (Propositions such as, 'The particular is the universal', and 'The individual is the particular', belong to the further specialisation of the judgement.) It shows a strange want of observation in the logic-books, that in none of them is the fact stated, that in every judgement there is still a statement made, as, the individual is the universal, or still more definitely, The subject is the predicate (e.g. God is absolute spirit). No doubt there is also a distinction between terms like individual and universal, subject and predicate: but it is none the less the universal*

*fact, that every judgement states them to be identical."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 166)

In every judgement, subject and predicate - by "is" - are set identically. On the other hand, they are also distinguished. Both - identity and difference, are expressed in the judgement, and both are only valid within the judgement. Modern logic considers judging to be: We ascribe a predicator. However, a predicate does not exist separately from the judgement at all, without its relation to a subject.

*"It is equally false to speak of a combination of the two sides in the judgement, if we understand the term 'combination' to imply the independent existence of the combining members apart from the combination. The same external view of their nature is more forcibly apparent when judgements are described as produced by the ascription of a predicate to the subject. Language like this looks upon the subject as self-subsistent outside, and the predicate as found somewhere in our head. Such a conception of the relation between subject and predicate however is at once contradicted by the copula 'is'. By saying 'This rose is red', ..., we declare, that it is not we who from outside attach ... redness to the rose, but that these are the qualities proper to these objects."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 166)

Only because "is" is said, because objectivity is the content of the judgement, one can argue about it at all, can present arguments for and against. If, on the other hand, one person ascribed the predicator "bassoon" and the other "recorder" - and the thing *is* neither of them at all, then it really doesn't matter, and one wonders why one predicates anything to such an X at all.

What roles do subject and predicate now play in the judgement?

*"The abstract terms of the judgement, 'The individual is the Universal', present the subject (as negatively self-relating) as what is immediately concrete, while the predicate is what is abstract, indeterminate, in short, the universal. But the two elements are connected together by an 'is': and thus the predicate (in its universality) must also contain the speciality of the subject, must, in short, have particularity: and so is realised the identity between subject and predicate; which, being thus unaffected by this difference in form, is the content."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 169)

The subject is at first nothing more than a name in the judgement, what it is, is only said by the predicate after all, the name of an actual thing, of which only its identity, its uniqueness in relation to all other things in the world, is claimed, "negatively self-relating". The predicate, on the other hand, is a universal determination, abstract, one can also say: thought, unreal, if one does not mean by it something put out by the subject as before. Thus, subject and predicate oppose each other. How does this go together with the "is"?

If one can say "is", then the predicate applies to the subject. Then the subject already has the quality in itself that faces it as a predicate. The subject is then a particular "case", a particular specimen of the universal. Conversely, unlike other universal determinations, the predicate as universal determination that applies to *this* subject is itself particular. And in this respect, the judgement has identity and a content.

### 7.2.1 *The Qualitative Judgement*

*"The immediate judgement is the judgement of definite Being. The subject is invested with a universality as its predicate, which is an immediate, and therefore a sensible quality."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 172)

The first form of judgement is that in which an immediate, sensual quality of a thing is simply expressed: The rose is red.

This is the *positive* judgement, whose form is first of all exactly the same as that of the judgement itself: "The individual is universal". The subject, as an actual but as of yet thing without content, is initially the independent side. The predicate, on the other hand, provides a universal determination, is initially the abstract, dependent side. It "inheres" in the subject, has its existence only in it.

But because only the predicate says what the subject is, the predicate on the other hand is what is independent in this relation: The content is independent of the thing and only makes it something determinate and thus something actual. "In this sense, the predicate subsumes the subject." The thing is merely a possible form of existence of its universal determination. So just as the rose only gets something like an individuality through the predicate "red", which is merely claimed in the name "rose", so on the other hand it is only a particular case of "redness". The empty subject gets a content and becomes something universal, the predicate belongs to an actual thing, the universal content acquires reality. "The universal is individual" is thus also expressed in this judgement.

To label the form of the judgement as "A is B" is completely wrong. In doing so, both sides stand only for their difference against each other. The form of judgement always has a content: in positive judgement objectivity is seen *as a thing with qualities*. That is, the thing is determined by its qualities (not by fragrance as such, but by the fragrance of the rose).

But that's just one of its qualities. The rose is red and fragrant and thorny and... The hodgepodge of determinations has no criterion for completeness. Every time a new quality is mentioned, it only confirms that the thing is even more. It is the universal of all these manifold qualities, but as such has no universal content. From this point of view, the identity of the matter is always beyond its determinations.

The untruth of the positive judgement has nothing to do with whether there are red roses in the world or not. (Empiricism considers truth to be a question of "there is" and "there isn't".) The two propositions of the positive judgement cannot be summed up in this way: The individual is individual and the universal is universal. They apply in various respects. The first describes immediately the form of the positive judgement, thus: What is said about the thing - it is a universal, the second the content *of it*: How it is said - by mentioning individual determinations. Both sentences contradict each other, or the contradiction is repeated in each of them.

"The individual is universal" - not true, it is individual after all. The predicate "red" not only applies to the rose. So that it is not only the determination of this concrete individual.

"The universal is individual" - not true either, it is universal. The subject contains not only "red", but also "fragrant" and "thorny", etc. The subject is ahead of the predicate.

*"The positive judgement has its proximate truth in the negative: the individual is not abstractly universal - but on the contrary, the predicate of the individual, because it is such a predicate or taking it by itself apart from its relation to the subject-because it is an abstract universal, is itself determinate; the individual is, therefore, in the first instance a particular."* (G.W.F. Hegel, Science of Logic II, § 1371)

The *negative* judgement is not the assertion of the opposite and thus the same as the positive one. "Not red" is not a quality. Negation is not, as formal logic suggests, one of two mutually excluding assertions.

The negative judgement confirms the result of the positive: The individual is not the universal that is said of it. But there is more in this. "The rose is not red" has as positive content: firstly it has a colour and secondly a determinate one. The negative judgement is therefore more precisely: "The individual is different from the universal" or "the individual is a particular". The subject is now determined by the

fact that it does not dissolve into the universal. In the predicate, universality and determinacy are separated.

The proposition of the negative judgement can also be reversed. The thing is more than just this single quality, the universal is different from the individual, "the universal is a particular".

So, the negative judgement does not say that subject and predicate have nothing to do with each other. The subject immediately remains anyway what it was in the positive judgement: an individual that has a relation to the universal. And in the predicate not the universal as such is negated, but this content, the universal is precisely affirmed as a sphere. The negative judgement is a factual assertion - with the crux that the thing is determined by its difference to a content, with which it coincides in the sphere, however. This is what is funny about the use of the negative judgement in political idealism. By the negation of a quality the thing is determined as being at least related to this quality. The quality that the idealist would like to have thus becomes a potential quality of the thing itself, its error an immanent contradiction of the thing.

The negative judgement already expresses that the individual cannot be determined by its quality. At the same time, it asserts that the determination is to be sought in the realm of qualities. The contradiction of the positive judgement is repeated: the predicate is ahead of the subject, the rose does not have any colour, but its own. The subject is ahead of the predicate, the rose is more than just colour.

The result is that the individual is also not identical with its particularity. So it is absolutely distinguished from everything that it is not respectively it is only itself and nothing else: negative and positive infinite judgement.

### 7.2.2 *The Judgement of Reflection*

The two infinite judgements express the fundamental incommensurability of the individual and the universal. The thing cannot be determined by its quality. There is still more to list, more to differentiate and still no progress. The identity of the thing is never completely grasped. So "individuum est ineffabile" after all? The individual, the unique, cannot be approached or only approximately?

To come to this conclusion, however, one must have a great deal of respect for the individual and also want to make a big fuss about the *difference* between identity and content. The false conclusion is: If only the predicate says what the subject is, then the subject itself is simply identity separate from any content and indeterminable. The form of the judgement should thus already prove that it must fail. Yet even the simplest judgement sublates this antagonism. It is precisely by *determining* the thing that it is found that *this* content is not appropriate to it and not that it is in no relation to it.

The judgement of reflection determines the individual by a universality that is *different* from it, a universality that belongs to it in *relation* to something external and for which its qualities are only the basis.

*"The following may therefore serve as examples of judgements of reflection: man is mortal, things are perishable, this thing is useful, harmful; hardness, elasticity of bodies, happiness, etc. are predicates of this peculiar kind. They express an essential determination, but one which is in a relation or is a unifying universality." (G.W.F. Hegel, Science of Logic II, § 1387)*

Judgements of reflection indicate an essentiality of the thing in this or that relation in the predicate. The subject is measured by this essentiality, its other qualities are of no interest. That is why the progress of the judgements now also rests with the subject.

Modern philosophy of science considers only the qualitative judgement to be objective, the "truth" of which proves itself not in thinking but in looking. It considers thinking to be a distancing from reality and discovers the form of the judgement of reflection as a method of bringing actuality under control through subjective points of view. The contradiction is: If actuality is in pure disparate ruins, then it is not brought into order by any category or point of view. What should be placed in which section? One would need to be able to sort these ruins for themselves.

The first form of the judgement of reflection is the *singular* judgement: "This is an essentially universal." For example: "This herb is wholesome". This means that it is not about chamomile and its many qualities, but it is regarded here as the same as sage and arnica, etc. But then it is inappropriate to talk about this one at all.

*"But a 'this' is not an essential universal. This judgement which, as regards its general form, is simply positive, must be taken negatively. ... Here, therefore, the negative judgement must be understood as asserting not a 'this' is a universal of reflection — an in-itself of this kind has a more universal existence than merely in a 'this'. Accordingly, the singular judgement has its proximate truth in the particular judgement." (G.W.F. Hegel, Science of Logic II, § 1393)*

In "this herb is wholesome" there are others already implied, so: "Some herbs are wholesome." That is the *particular* judgement: "Some individuals are a universal reflection."

The particular judgement is a positive and negative judgement in one: "Some herbs are wholesome" contains "some are not". This makes it indeterminate. It does not provide information. One immediately wants to know: "which herbs?" But this also means that the subject is no longer the individual as such in particular judgements.

*"If, in the example of such a judgement, we examine further the subject, some men, animals, etc., we find that it contains besides the particular form-determination some, the content-determination man, etc. The subject of the singular judgement could be expressed by this man, a single individual, which really pertains to an external pointing; it might therefore be better expressed, say, by Gaius. But the subject of the particular judgement can no longer be, some Gaii; for Gaius is supposed to be an individual as such. To the some is therefore added a more universal content, say, men, animals, etc. This is not merely an empirical content, but one determined by the form of the judgement; that is to say, it is a universal, because some contains universality and this must at the same time be separated from the individuals, since reflected individuality forms the basis." (G.W.F. Hegel, Science of Logic II, § 1396)*

The subject already contains a universality. This, still expressed as a summary of individuals, is the *universal judgement*: "All men are mortal." The entirety of individual specimens of a genus is held against the genus here. In this form, philosophy of science knows the *law* as a *universal proposition*. Such a "law", which deals with white swans or black ravens, coincides totally with the individual case on the one hand - it does not govern the cases, but consists of them - on the other hand as a summary of accidental individuals - the white swans are just there, have no law – it is absolutely different from them. Each number of individual cases is always only this number and never all of them. The universality and thus the validity of the universal proposition always remains in limbo. Nor can it actually be refuted, because a deviating case cannot be determined at all as a case of this "law".

Philosophy of science also notes this when it seriously asks itself whether it should not eliminate the black swan by means of language regulation. Should/may one still speak of a "swan" with a black swan? In this way, the universal proposition acquires "lawfulness", if counterexamples are excluded from the outset! But if one does not want to know necessity other than the common occurrence of two characteristics, then really nothing speaks against it.

*"For this reason, this empirical allness remains a task, something which ought to be done and which cannot therefore be represented as being. Now an empirically universal proposition — for nevertheless such are advanced — rests on the tacit agreement that if only no contrary instance can be adduced, the plurality of cases shall count as allness; or, that subjective allness, namely, those cases which have come to our knowledge, may be taken for an objective allness." (G.W.F. Hegel, Science of Logic II, § 1399)*

In the universal judgement, besides the *assertion* of the universality - "all" - there is also its content: "people", "swans" etc. There is no talk at all of unrelated individuals, but of individuals of a genus. How does one even get the idea to say something about "all people"? For this, one has to already think that these are not random characteristics of individuals, but that *man* is such-and-such, that the individuals qua human have this quality.

*"What belongs to all the individuals of a genus belongs to the genus by its nature, is an immediate consequence and the expression of ... that the subject, for example all men, strips off its form determination, and man is to take its place." (G.W.F. Hegel, Science of Logic II, § 1404)*

With this, the *judgement of necessity* results. The judgement of necessity, which as a subject no longer has this or that individual, but a thing that is only of interest by its universal nature, thus also contains another predicate: neither a quality that is attached to the thing, nor a commonality in relation to a thing external, but its own universal nature. This "substantial identity" of subject and predicate constitutes the necessity of this form of judgement, which as a categorical judgement is called, for example, "gold is metal" or "the rose is a plant". One can see the difference to "The rose is red". The objection: but the subject has many other qualities and "red" is no better than "thorny" or "fragrant" - no longer applies to the categorical judgement. Here it is stated what constitutes the thing essentially, and also not essentially *for* or *in* a determinate context, but as its *own* essence.

*"The categorical judgement must therefore be definitely distinguished from the positive and negative judgements; in the latter, what is predicated of the subject is a single contingent content; in the former, the content is the totality of the form reflected into itself. Here therefore the copula has the meaning of necessity, whereas in the others it merely signifies abstract, immediate being." (G.W.F. Hegel, Science of Logic II, § 1407)*

On the other hand, however, the shortcoming of the categorical judgement is no secret either. It's no coincidence it reminds me of something like: Finding headings, forming classes. In "gold is metal" the subject and the predicate are indeed universality, but their relation is totally indeterminate.

The subject is initially particularity against its universality. Gold is *a* kind of metal. On the other hand, its particularity is not determined at all, nothing fixed at all. "Gold" somehow belongs to the general category "metal", but it could just as well be subsumed under "precious metals" or under another general concept "elements". The subject is *more* special than the predicate. The predicate is *more* universal than the subject. Particularity and universality are only relative. The predicate is something like the big bag into which one can put the thing - among other things. The necessity of this judgement is also totally negated again by the indeterminate relation. It does not say *to what extent* gold is a determinate type of metal or what the specific difference between gold and metal is.

*"But even the Categorical judgement is to a certain extent defective. It fails to give due place to the function or element of particularity. Thus 'gold is a metal', it is true; but so are silver, copper, iron: and metallicity as such has no leanings to any of its particular species." (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 177)*

And for the predicate, that means:

*"But objective universality, too, has here as yet only its immediate particularisation; hence it is on the one hand itself a determinate universality in contrast to which there are higher genera; on the other hand, it is not exactly the proximate genus, that is, its determinateness is not exactly the principle of the specific particularity of the subject." (G.W.F. Hegel, Science of Logic II, § 1407)*

The *hypothetical* judgement formulates the *contradiction* of the categorical one: a necessary relation *independent* of content.

When I say "gold is metal", it doesn't say much about the relation between the two, only this: Gold *belongs* to the metals in any case, perhaps also to the precious metals, but not to the insects or cloven hoofs. This unity is expressed by the hypothetical judgement in that it is no longer a matter of a hierarchy of genres, but about the dependency of the immediately determined on another:

*"If A is, then B is; or, the being of A is not its own being, but the being of another, of B." (G.W.F. Hegel, Science of Logic II, § 1409)*

Anyone who has ever visited an introduction to formal logic may remember the sentential connective used to form propositions of the kind:

*"If  $2 + 2 = 5$ , then Mars is a planet."*

This is a misunderstanding of the hypothetical judgement. Because the only thing it says is the *connection* between A and B. It does not actually claim that A and B *exist*. Nonetheless, one cannot postulate any nonsense with 'if...', because nonsense precisely has no necessary connection. The shortcoming of the hypothetical judgement - and that is why formal logic comes to that - is that the relation between A and B remains *undetermined*. What A and B have to do with each other is left unanswered. This kind of necessity excludes content. And it is this independence of necessity and content that interests formal logic.

The identity of subject and predicate with content brings about the *disjunctive* judgement:

*"A is either B or C. This is the necessity of the concept, in which first the identity of the two extremes is one and the same extent, content and universality; ... Thirdly, the identical objective universality appears for that reason as the determination that is reflected into itself in contrast to the unessential form, that is, as the content, but a content which possesses within itself the determinateness of form, once as the simple determinateness of the genus, and again, this same determinateness developed into its difference-in which way it is the particularity of the species and their totality, the universality of the genus." (G.W.F. Hegel, Science of Logic II, § 1411)*

The universal concept is determined by the scope of its particularities. The subject of the genus, the predicate, are its species as totality. For example: "Capital is either productive or commercial capital or interest-bearing capital." That's all there is and can be. On the other hand: "The colour is either green or pink or mahogany or..." is a bad example of the disjunctive judgement. A non-exhaustible hodgepodge of subcases contradicts the necessity, which lies in the fact that subject and predicate are identical in scope and universality. The predicate as the complete range of species is no further or narrower than the subject and as this entirety it also has the same universality. Both - subject and predicate - are the whole thing.

The subject is positively identical with its particularities. The universal, e.g. "capital" is included in *each* of its particularities. The particular forms are mutually exclusive - capital exists either as productive

capital or as interest-bearing capital, but not as both at the same time. Through this negative, exclusive relationship of species, the genus is no longer something *more* universal, a "bag" into which everything possible fits, but the next genus, namely the unity of its differences.

### 7.2.3 *The Judgement of the Concept*

*"This unity of the universal and the particular is the concept: and it is the concept which, as we now see, forms the content of the judgement."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 177)

In the disjunctive judgement, this unity exists as a simple identity respectively as negative unity. There is no determinate relation between the genus and its species as well as between the species themselves. The *relation* between individuality, particularity and universality is given by the judgement of the concept. It therefore has predicates such as "good, bad, true, right", which express the comparison of a single thing with its universal concept.

It is true that "good" and "bad" express a pure subjective preference or dislike. Whoever says "this house is good" does precisely not say "I like it", but asserts an objective yardstick which he now applies to this single specimen. The fact that different people can like very different houses is no objection to this. Their criteria may also be quite subjective in terms of content, but they are applied to *the* house as such. Surely the farmer understands "good weather" differently than the tourist. Everyone makes his interest the yardstick of the matter, which in this case also does not dictate anything else. (In weather there is no difference between individuality and universality. Downpours are not an inappropriate form of realization of weather.) Nevertheless, in form a judgement of the concept is made; the concrete thing is compared with how it has to be.

*"Judgements, such as whether an object, action, etc., is good, bad, true, beautiful, etc., are those to which even ordinary language first applies the name of judgement. We should never ascribe judgement to a person who framed positive or negative judgements like: This rose is red, This picture is red, green, dusty, etc."* (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 178)

To have a judgement of a thing means to know what to think of it. That there is an unbridgeable gap between "describing" and "values" is an assertion that results from the imposition of moral philosophy on the mind: accepting duties. This imposition is made durable by two kinds of intellectual realms, that of the "descriptive" and that of the "prescriptive" propositions. If morality cannot be justified on the basis of knowledge, then it is justified by itself (ought-propositions by ought-propositions) and that is also a kind of "logic".

That "good" is a quality like "yellow" (Moore), only that one does not see it, but perceives it with a very own sense, is the opposite position, which acknowledges the unfoundedness of morality, but does not want to regard this as an objection either.

To judge a thing without being allowed to use knowledge about it is a mental absurdity. What kind of point should a rating have that has nothing to do with the thing it evaluates?

However, the objection that the predicate "good" would be a purely subjective matter cannot attack the *assertoric* judgement. A single thing with a concrete constitution is related to its concept, without the coincidence of particular qualities and universal concept occurring in content. It is only asserted. The yardstick of the comparison remains in the dark. Just like "This house is good." The opposite can also be said.

The result is: this thing *can* be good or bad, it is good once and bad once and that depends on its respective qualities.

That is the *problematic* judgement: "A house, depending on its constitution, is good." Not only is merely the result of the comparison of the matter with its concept stated, but already the criterion by which it is decided is indicated. The discrepancy between subject and predicate - on the one hand the concrete thing, and on the other the comparison with its concept, which is not recognizable as its own at all - is sublated; the subject contains in its respective constitution its coincidence or non-coincidence with its concept, which in turn is pronounced by the predicate. But this also fills the side of the concept in terms of content and it is no longer the *question* as to whether the thing is in accordance with its concept or not: *this* constitution of the concrete house is at the same time the particular expression of the universal concept. If these determinate qualities make a house a good house, then these qualities are conversely also the concretisation of the universal concept of the house.

The *apodetic* judgement links the concrete individual through its particular constitution with its concept. In "the house, constituted such-and-such, is good" the house appears three times: once as this single thing here, once as a determinate constitution and once as the house par excellence, which sets the yardstick for the predicated correspondence. The relation subject - predicate, the separation of identity and content, is already sublated here: the subject is both identity and content, the predicate is the coincidence of both. On the one hand, the copula has " transitioned into the predicate " as a relationship, on the other hand, it has become the commonality of subject and predicate in terms of content. In form, the apodetic judgement still has the character of a mere assertion, which lies in the independence of the extremes of judgement. On the other hand, it already contains its unity of content. It already contains an *argument*.

### 7.3 The Syllogism

The syllogism is a relation of extremes like the judgement and at the same time its unity of content. That's how explaining works, that's how one knows the determination of a thing as necessary.

The syllogism is not a series of judgements and certainly not a "reformulation of propositions". How can a new quality, a new insight be achieved by writing several judgements one after the other or through variants of the same proposition? Also, the statement that the syllogism is the derivation of one judgement from another (Kant) is quite pointless as long as one does not say what a *derivation* should be, i.e. what is the connection between the first and the second judgement.

A syllogism like "Gabi goes to the cinema or she stays at home. She doesn't go to the cinema. So she stays at home." is not one. The alternative in the first sentence is not a disjunctive judgement, but a definition to which the whole thing is reduced. Why not put the conclusion together right away? This has already happened anyway in the claim "Going to the cinema or staying at home" - one of them is definitely true. If not one, then the other, all right!

A syllogism can be understood as affording ground for a judgement, as an answer to the question "Why?", "To what extent?". However, the decisive factor is not that a judgement is followed by another one, but that the extremes of the first judgement are mediated in that which affords ground. A syllogism is not a relation between judgements, but between concept-determinations – individual, universal, particular (terms). The trick with syllogising is also not that something is made accessible<sup>12</sup> which one did not know yet. That may be the case, but what matters is that the unity that the extremes *have* is mediated through a third thing, a middle term. Which of the three terms is already known and which is syllogised, which forms the result, is a subjective matter and does not concern the truth of this connection. The idea that syllogising is an operation by which the mind acquires second-hand knowledge that cannot be obtained immediately from the first shows again a bad opinion of thinking:

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<sup>12</sup> German: Erschließen.

as a crutch of perception it does not come to any other result than that there is something - which one does not see.

### 7.3.1 The Qualitative Syllogism

*"The syllogism in its immediate form has for its moments the determinations of the concept as immediate. Hence they are the abstract determinatenesses of form, which are not yet developed by mediation into concretion, but are only single determinatenesses. The first syllogism is, therefore, strictly the formal syllogism. The formalism of the syllogising process consists in stopping short at the determination of this first syllogism. The concept, differentiated into its abstract moments, has individuality and universality for its extremes, and appears itself as the particularity standing between them." (G.W.F. Hegel, Science of Logic II, § 1442)*

In the syllogism of existence, an individual faces a universal – it is not immediately universal – and has a commonality with this in a third that is differentiated from both.

*"This rose is red; red is a colour, so this rose is a coloured."*

One may not directly disagree, but what is to be gained from this is also not clear. In the qualitative syllogism, one of an individual essence's qualities is emphasized and then again something more universal is drawn out of it. The syllogism is formal: one could also retain any other quality of the rose and syllogise it together with many - also incompatible - universalities. Here the source is of the opinion that *everything can be proven*. The extremes have nothing to do with each other, are only connected by any commonality. "Reversed" this syllogism works just as well or badly as "forward". To get from "coloured" to "rose" is just as accidental as from "rose" to "coloured". Just as the rose is only coloured among other things, coloured is only among other things a rose. Criminalistic logic executes the syllogism from the universal to the particular up to the individual. From the deed, the specific circumstances are used to syllogise the culprit. Of course it is just as accidental - or owed to the writer's craft - whether the particular circumstances allow the syllogism of only one culprit.

*"This syllogism, if it is contingent in point of its terms, is no less contingent in virtue of the form of relation which is found in it. In the syllogism, according to its concept, truth lies in connecting two distinct things by a Middle Term in which they are one. But connections of the extremes with the Middle Term (the so-called premises, the major and the minor premise) are in the case of this syllogism much more decidedly immediate connections. In other words, they have not a proper Middle Term. This contradiction in the syllogism exhibits a new case of the infinite progression. Each of the premises evidently calls for a fresh syllogism to demonstrate it: and as the new syllogism has two immediate premises, like its predecessor, the demand for proof is doubled at every step, and repeated without end." (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 185)*

The middle, which unites the two extremes, i.e. should provide the proof, only formally unites them. "Red" occurs twice. The syllogism challenges the contradiction against the premise. Why "red" after all? The rose is thorny! And: blue is a colour! And where is then the syllogism? Apparently, it depends on separately affording ground of the premises, which, however, cannot succeed.

### 7.3.2 The Syllogism of Reflection

In the syllogism of reflection, the middle is what the qualitative syllogism as a whole states: through a determination that the individual has next to others, it is something universal. "Red" does not only contain the rose, but all red things, they may otherwise be as different as they want to be and in this the particularity is at the same time something - albeit without content - universal. Particularity as the

sum of individuals is the middle of the syllogism of reflection, the first form of which is the *syllogism of allness*:

### 7.3.3 *Syllogism of Allness*

All men are mortal. Gaius is human. Thus, Gaius is mortal.

*"If the mean, in the first place, be not only an abstract particular character of the subject, but at the same time all the individual concrete subjects which possess that character, but possess it only along with others, (1) we have the Syllogism of Allness. The major premise, however, which has for its subject the particular character, the terminus medius, as allness, presupposes the very conclusion which ought rather to have presupposed it." (G.W.F. Hegel, Encyclopedia of Philosophical Sciences, § 190)*

Modern formal logic considers this syllogism to be the very end, although it is precisely its "pedantism" and "meaningless formalism" that catches the eye of everyone according to Hegel. It is precisely its obvious emptiness that it considers the imperative in it. That the conclusion is already contained in the premises is its fault. The first premise presupposes the mortality of good Gaius. It must not be said that *all* men are mortal, if this is still the question with Gaius. But if "all" are "all except Gaius", nothing follows for Gaius. The syllogism is only the contradiction that something can only be syllogised if there is nothing to syllogise.

The syllogism of allness is based on *induction*: only the separate examination of the individual cases allows the universal statement. The chain of the individuals - differentiated from particularity - forms the middle of the syllogism of induction, which looks like this:

Copper is metal. Gold is metal. Silver ... Lead... etc. Copper conducts. Gold conducts. Silver ... Lead... etc. So all metals are (electrical) conductors.

*"Induction can we ever exhaust the individuals. The 'all metals', 'all plants', of our statements, mean only all the metals, all the plants, which we have hitherto become acquainted with. Every Induction is consequently imperfect." (ibid.)*

The listing of all individuals never goes beyond the accidentality of the meeting of two qualities. "All" can then only mean "all cases observed so far". The universal statement be fulfilled. An accumulation of accidents is not a necessity. The appearance of a syllogism arises only through the "etc.", through the incompleteness of the list. If one were to say right away: "The 27 metals known so far are electrical conductors." Then it would be obvious that this is no ground for all metals to conduct.

*"By this defect of Induction we are led on to Analogy. In the syllogism of Analogy we conclude from the fact that some things of a certain kind possess a certain quality, that the same quality is possessed by other things of the same kind." (ibid.)*

If the inexhaustible series of individuals already lists only things of the same genus, then the list is superfluous as such. The common genus provides the basis for syllogising a new case.

There are better and worse analogies:

*"It would certainly be a very bad analogy to argue that since the man Caius is a scholar, and Titus also is a man, Titus will probably be a scholar too: and it would be bad because a man's learning is not an unconditional consequence of his manhood." (ibid.)*

It is syllogised by the common genus that Gaius and Titus have another commonality. This can go wrong because the *medius terminus* is contradictory: it contains both the genus and the individual Gaius, which has all possible qualities that have very little to do with his humanity. A successful analogy exists

when an actual quality of the genus is syllogised, i.e. when the middle term is no longer "man Gaius" but only "man".

In the syllogism of *necessity*, a single actual thing is syllogised by means of its universal nature with a necessary quality of that universal nature. Individuality, universality and particularity are then identical in content (the middle is no longer an external summary of the extremes) – *"and the form of the syllogism which consisted in the difference of the middle term from its extremes has thereby sublated itself."* (G.W.F. Hegel, Science of Logic II, § 1527)

The essential in syllogism is that the thing is determined, explained. As an operation it is actually something subjective: this way around or the other way around, depending on what is asked or how one wants to present the thing.