ABSTRACT: There are good reasons for determinism — the option for pure freedom of will proves to be a non-tenable position. However, this collides with the everyday experience of autonomy. The following argument will attempt to show that determinism and autonomy are compatible. (1) A first consideration going back to MacKay makes clear that I myself cannot foresee in principle my own determination; hence fatalism has lost its grounds. (2) From the perspective of physical determination, I show that quantum-physical indetermination is not at all in a position to explain autonomy, while from the perspective of systems theory physical determination and autonomy is well-compatible. (3) The possibility of knowledge denotes a further increase of such autonomy. From this perspective, acting is something like designing-oneself or choice-of-oneself. (4) Consciousness of not being fixed in principle now becomes a determining condition of my acting, which appears to be determined by autonomy. This explains the ineradicable conviction that freedom of will is essential for human beings. (5) I conclude that the autonomy of acting is greater the more that rational self-determination takes the place of stupid arbitrariness.

In 1980 a book by U. Pothast came out with the provocative title 'The Inadequacy of the Proofs for Freedom'. (2) Its merit consisted in the fact that it runs through and refutes all the known types of proofs for freedom in the philosophical tradition. Pothast's arguments, which thereby amount to determinism, are in my opinion basically sound, but surely also need a discriminating judgement, which is treated in the following discussion.

The view mentioned is alarming in two respects: First of all, in accordance with the way we see ourselves we are convinced that freedom is essential for man's being. Secondly, philosophers think they have excellent arguments against determinism.

The strongest objection to determinism is in my view the following: (3) Truth, i.e., accurate knowledge of the facts of a case is only possible for me when I can cognitively get involved with the subject. However, the precondition for this is that I am not determined by irrelevant constraints in connection with the subject — e.g., by physical factors or by my own
biological-genetic constitution, but also not by prejudices and preconceived notions: precisely because I could not involve myself in the subject because of such constraints. Reduced to a formula, this means: truth presupposes freedom.

As a philosophical theory, determinism itself lays claim to truth, which therewith presupposes freedom, in accordance with what I have just said. Determinism, however, denies the possibility of freedom: therefore, this appears to be a contradiction that discredits determinism as a logically inconsistent and self-contradictory position.

The argument is captivating. It appears to provide us with an absolutely sound objection that deals the deathblow to determinism. Yet this consideration does not stand up to a more exact test. The premise here is: Whoever seeks knowledge must be free to think rationally. But there are preconditions for this, too — actually they are of a logical and an empirical nature: First of all there are logical rules that must be observed for rational thinking. The capability for this must obviously be trained as well. Scientists just don't fall out of the blue either, but are shaped by genetic dispositions, socialisation, etc. They need a minimum of intelligence, a good education, lots of motivation, discipline and, last but not least, the ability to deal with frustrations and a bit of luck, too. In short, the ability to do scientific work also has preconditions and this also means that it is determined by these preconditions. The argument that at first seemed very convincing, namely, that determinism itself always presupposes freedom from determining conditions for the truth it lays claim to is only valid for irrational determinants, not the conditions of rational thinking. Therefore, for the latter the argument loses its soundness. This 'proof of freedom', which at first seemed irrefutable, also proves itself to be insufficient, indeed.

Looking more closely at the matter, determinism seems so to be, surprisingly enough, the more plausible position. It is obvious that the structure of the subject possesses determinants. Accordingly, only the traditional concepts of freedom of choice but not freedom of will can be considered for man: 'Freedom of choice' denotes the possibility that I can do one or the other thing at my own discretion, i.e., autonomy. This means, first of all, that the circumstances do not prevent me from acting so; secondly, autonomy is founded in my subjective structure, which in turn must certainly be regarded as determined in many ways: By character, types of needs, wishes and objectives, but also intellectual competence, breadth of comprehension, etc. 'Freedom of will', on the other hand, would mean that my actions are not only independent of external compulsion but also of the internal structure of my Self, in addition, and that means: My actions would be, so to speak, independent of myself — undoubtedly a most paradoxical idea. So autonomy remains the only reasonable possibility, understood as freedom of choice, which, however, includes determinations in an essential sense. Can such a point of view be called anything else than 'determinism'?

We may feel that the victory of determinism that emerges here is alarming. As good, modern individualists we all have a well-developed sense of freedom that clearly seems to exclude determinism. Is this to prove itself to be a total illusion?

In the following I would like to show in several steps in what sense the undeniable determination of man nevertheless contains an element of freedom.
1. The Problem of Fatalism

A first problem in this connection concerns the attitude towards thought and actions. Namely, if this attitude is determined, this would seem to suggest a fatalistic consequence. Determination of actions would seem to be a fact that I can no less escape than Oedipus his own fate. Then I would only need to wait and see what happens to me, for it must obviously happen, whatever I do.

I'm sitting e.g. at a café and out in the lake a man is struggling to keep from being drowned. As a fatalist I would perhaps say: Save him: Then I would have to get up and dive into the water. But I then think, 'At this very moment I am being determined to drink my coffee'. I try to justify my denial of assistance with my alleged fate. As a fatalist I therefore assume that my future decisions are already definitely fixed so that one could basically know of them beforehand, e.g., by means of a suitable method of calculation.

Such an assumption is clearly refutable. This is shown by an interesting argument which has been given with various accentuations, e.g., by H. Bergson, M. Planck, (4) K.R. Popper, (5) and Donald MacKay. At this point I would like to describe MacKay's thought experiment discussed in this connection (6): MacKay proceeds from the assumption that a neurophysiologist would be in the position to measure the state of my brain exactly and from this infer my subsequent actions. I think it is clear that this is a maximum assumption that is unrealistic for various reasons; however, we are dealing with a thought experiment. If my actions could be predicted by a scientist in this manner, then two alternatives are possible: (1) He can withhold his knowledge from me; then only he knows how I will act and I myself remain in the dark about it. (2) Or, he informs me of his knowledge and I can believe him or not. The state of my brain, however, changes because of this information and, therefore, the state of my motivation and the disposition of my actions as well. In other words, if I am informed about the state of my brain, this information then becomes false due to it. In the first case the observer could know my future actions in advance, as long as he does not inform me about them; in any case, however, I do not have this knowledge. In the second case, however, if he informs me, this knowledge becomes outdated through the act of informing itself. Be that as it may: For himself everyone is in the situation of one who in principle cannot know his future thoughts and actions. Pothast calls this not-being-able-to-know in principle epistemic indeterminism, (7) i.e., indeterminism on the epistemic level.

In respect to ethics this fact of epistemic indeterminism is enormously momentous, for fatalistic arguments become unfounded because of it. All arguments with an alleged fact of having to or not being allowed to do something specific are then unfounded and, therefore, absolutely unsuitable for the justification of actions or their omissions.

As presented, this is then indeterminism on the subjective-epistemic level; however, objective determination of action is not affected by this. Now this appears to collide with the fact of the daily experience of autonomy, which exists, e.g., in the evidence that we lead our lives — we plan the day, we work toward a distant goal, indeed, in a certain sense we could even say with Sartre: We design ourselves. That is a profound statement, but in comparison with the absolute situational restriction of the animal — "tied down tightly....on the stake of the moment", as Nietzsche says (8) — it is not erroneous. We have seen that various determinants are at work here, too. Nevertheless: The possibility of planning our lives remains a
fascinating fact that suggests autonomy, and the question is then: How can we reconcile these objective determinations with autonomy?

2. Autonomy in Physical Determinations (9)

In this connection we must secondly consider the physical aspect, first of all. Our starting point is the thought that human acts of will are inevitably connected with mental processes and therefore processes of the brain, which, however, are subject to natural laws as physical-chemical processes and, therefore, ought to be strictly determined. Not even freedom of thought seems to exist. Physical determinism seems to determine the mind no less than the course of the heavens — indeed, a terrifying vision!

One possibility of escaping this consequence seemed to appear with the development of quantum theory. According to the classical theory of physics, the chain of cause and effect is absolutely solid, but this is no longer true from the perspective of quantum physics. The quantum theory contains — at least in its established form — indeterministic elements. Thereby, so it seemed, the concept of freedom could be saved from the deterministic grip of classical physics. According to quantum theory there are gaps in the causal chain, so to speak, and it seemed that autonomy could be accommodated in these gaps.

P. Jordan already made such a suggestion about forty years ago. (10) In a book by P. Rohs that recently came out the author argues in a similar way (11) and so considers the principle compatibility of freedom and physics to be safeguarded.

I think this example is instructive. The question is really: What could indeterminism in quantum physics that we lay claim to here do for the concept of freedom? However: statistical chance has taken the place of strict causality in quantum theory. Consequently, the freedom of human action understood in this manner would be nothing other than chance in the form of roulette-like processes. Does this satisfy us? Is freedom nothing more than senseless chance? Trying to save freedom in this way would rather mean sacrificing its meaning. Freedom could hardly be accommodated in the quantum 'gap' of the causal chain.

Then, however, the following question becomes pressing: How can our thinking be subject to determinations and simultaneously be independent of accidental effects in the environment (e.g., the weather, gravitation, phases of the moon), when we are concerned about constructing correct, logical connections, for example? The answer is: Because the human being is a system and as such exists, as it were, 'independently' of his environment in a certain sense. We mean thereby that processes in the system are subject to specific 'laws of system', which are independent of the conditions of the environment — within a certain range of fluctuation. Even television functions independently of the position of the stars.

The new perspective made possible by modern system theory is crucial here. Systems are characterized by their own laws. They possess thereby a certain autonomy specific to the system, i.e., independence from the environment of the system, but in such a way — this is important — that everything occurs according to the laws of physics. Natural laws remain unchanged, but there exist dominant system determinants on a high level in the hierarchy — 'high up in the hierarchy' in the sense of their functional status in the system hierarchy; as such, they have a 'controlling' function, so to speak. A 'gap in the causal chain' is as un-
necessary for this as are different non-classical laws of nature.

So much for the side of physical determinations which thus is clearly compatible with autonomy with respect to the environment; in reference to this I would like to briefly mention system autonomy. A basic aspect of freedom in a deterministic context has thereby now become visible.

3. Knowledge and Self-Awareness

A third aspect in reference to the relationship between autonomy and determination of actions results from the possibility of knowledge for man: His horizons extend far beyond the immediate present. The ability to think and to know represents — in contrast to animals — an immense liberation from the factual circumstances. The daily consciousness of autonomy already mentioned, which we also possess without philosophy, has its origin therein. Through the detachment from the immediate situation and emotional conditions it becomes possible for me to lead my life autonomously, i.e., to make plans, to orientate myself toward distant goals, and to persevere in this direction against obstacles. Knowledge certainly has determining conditions, too. However, in contrast to animals the result of such determinations represents an enormously enlarged perspective, which we therefore experience as freedom rather than determinations. In this sense I prefer to speak of 'autonomy through knowledge'.

Yet that is all still too general: I possess not only knowledge of the world but also knowledge of my knowledge, knowledge of myself, self-awareness. So I also know that I am able to know, and that also means that I can always widen my limited knowledge. With that a further most important aspect of the relationship between autonomy and determinations now becomes visible: In self-awareness, in the return to myself I discover beyond the possibilities existing in factual knowledge that I can make possible such possibilities for myself, or, stated differently, that I can overcome factual limitations and, as it were, — à la Sartre — 'design' myself as he who I wish to be — another unbelievable expansion of the freedom of choice, which so frankly, to use an expression from Kierkegaard, has the character of 'choice-of-oneself'. In this perspective of self-aware choice-of-oneself I understand myself as a being that is definitively restricted to nothing and that in this respect is autonomous in a fundamental sense. Let us call this 'autonomy as choice-of-oneself'.

Nonetheless, the capability of choice-of-oneself, which assumes self-awareness, is also the result of a process of development depending on various conditions. Determinations are thus essentially in choice-of-oneself as well. I would therefore rather speak more precisely of 'limited choice-of-oneself'.

And nevertheless: A pure unlimited consciousness of possibilities on the level of self-awareness is opposed to these undeniable factual determinations. Thus, not only limited knowledge that accordingly presents limited possibilities to me, but, as it were, the meta-knowledge, that I am in the position to know, i.e., I know I can gain knowledge I do not have and I also know, at least in principle, how I can gain it — e.g., where I can 'look it up' or at least how I can find out where I can look it up. The knowledge of my own limitations also makes it possible for me to free myself from these restrictions in a certain sense.
In spite of my factual pre-shaping I am thus certain that it does not bind me down. Surely, my decisions to act are also determined by internalized norms of society, but 'in a pinch' — that is also certain — I can also question them and, if necessary, replace them with other ones. In short: Nothing at all is definitively restricted from the perspective of choice-of-oneself. In spite of all undeniable determinations this indestructible consciousness of possibility and in this sense consciousness of freedom are constantly being confirmed by this fact. (12)

4. Consciousness of Autonomy as a Determinant of Action

Fourthly, with the consciousness of choice-of-oneself something decisively new occurs simultaneously: This consciousness of principally not-being-bound, of a limitless horizon of possibilities now itself becomes a determinant of my actions. I thereby act, although factually determined in many respects, in the awareness of basically unlimited possibilities and that is, I think, action of a completely different quality than without this consciousness: The moment this consciousness of autonomy that transcends everything itself is part of the structure of the subject, then it itself has become a determinant of action. The set of internalized norms according to which I act has here been increased by another norm, as it were, which states: 'Choose freely, according to your possibility to do so': This is, therefore, a view that knows it is autonomous, wants to be autonomous and thus is motivated to cross borders and thereby to confirm and prove itself as autonomous.

Thus, it is decisive: Consciousness of autonomy is now itself a part of the determining factors of my actions and thus develops an enormous determining power: I will do everything to preserve this freedom of autonomous choice-of-oneself, which completely determines my idea of myself as a human being. This idea of freedom is not an empty, inconsequential thought but rather determines the real actions of man, which in this form seem to be determined toward autonomy. Kant's dictum: "Every being that cannot act but under the idea of freedom is in a practical sense really free precisely because of this fact" (13) touches on this central point of the problem of freedom.

The possibility of choice-of-oneself is thus characterized by the fact that determinations and freedom converge, so to speak. Undifferentiated discussions of 'determinations' do not recognize the fact that determinations in the form of choice-of-oneself change into freedom. As long as this has not been understood, I think the problem of freedom inevitably maintains its aporetic character.

To be sure: Also autonomy realized as choice-of-oneself constitually contains determinations and is, therefore, freedom of choice and not freedom of will — and yet it comes extremely close to this. Or should we rather say: Understood correctly, it is the freedom of will that we really have in mind? For pure freedom of will, a desire without a specific will, as we have seen, is something impossible. However, thereby it is also clear that the abstract opposition of freedom and determinations represents a false alternative. Pothast's option for determinism mentioned at the beginning has, I think, become more differentiated by the ideas developed and insofar has been corrected. This was my primary interest here.
5. Reasonable Self-Determination

Thus, the will is also determined in choice-of-oneself, but now by self-chosen 'spiritual' determinants like ideas, principles, logical connections, etc.: So, finally, a fifth aspect of autonomy becomes visible. The actual point here is that this spiritual form of determinations can be so strong that I am predictable for others and for myself. In MacKay's neurophysiological thought experiment that was not possible, at least for myself, because every change there in the physical state of the brain could lead to changed behaviour. For 'human beings with principles' on the other hand, that is not to be expected. Epistemic indeterminism has been replaced here by epistemic determinism, so to speak: Due to this spiritual-epistemic determinism actions are bound to a maximum degree, and, at the same time, this self-chosen limitation means a maximum of autonomy — not merely the autonomy of the system on the physical level and not autonomy through knowledge either, but simply autonomy of choice-of-oneself and so determinations toward freedom, which have, as presented, the character of spiritual self-determination.

We must remember here that the spiritual determinants mentioned — after Kant Hegel saw this in all clarity — are, in fact, not a foreign force for man, who is in an important sense spirit, but rather his own essence. Submitting oneself to them is, therefore, not alienation but, to use a common term of Hegel, being-with-oneself. As a spiritual being I am, so to speak, the more with myself and in such a way self-determining the more I orientate myself towards those principles that are constitutive for the spirit: towards the principles of thinking and so logic.

This corresponds to the fact that logic itself — but this already belongs to another context — represents the sphere of autonomy per se, because and insofar as it cannot be founded by an authority outside of logic, for founding is itself an internal-logical connection. In other words: Logic — logic in a fundamental sense — can only be considered as self-founding and self-determining.

But that also means that true self-determination can never be arbitrary. I can only take part in the autonomy of logic with strict adherence to the principles of it, i.e., to reasonable principles. True autonomy is thus just as much adherence: Adherence to the principles of logic and so in the end reasonable self-determination.

Reasonable self-determination: However, this is always the hard-won freedom of reason and reasonable choice-of-oneself with the help of others and good providence; therefore nothing self-evident and something that can also fail in the course of development of a human life.
Notes

(1) Translated from the German by E. Kummert.


(13) Kant, Grundlegung zur Metaphysik der Sitten, Akademieausgabe IV, 448.