

KANT ON PLANTS: SELF-ACTIVITY, REPRESENTATIONS, AND THE ANALOGY WITH LIFE

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§1 – Introduction

Do plants represent? For Kant the answer is closely related to the question of whether plants are alive and have a soul. I will argue that Kant would answer both affirmatively.

My main aim, however, is not to convince you that plants are alive and represent. Rather, I want to bring out how this question is connected to how Kant holds self-movement relates to having a supersensible soul and a psychological subject. I'll argue that he is committed to reflectively judging any organism that moves-itself is alive, has a supersensible principle of life, and has a representing, desiring subject. This is because self-movement exhibits spontaneity, not in the full and proper sense of a free, original cause, but in the restricted sense of engaging in self-directed activity. The organism is neither a mere patient, nor a mere agent, but is simultaneously its own patient and agent because it acts on itself.

In the process of this discussion I also aim to illuminate what Kant would take to be the minimal powers that must be had by any being with a psychological subject.

§2 – Three dimensions of life

What is life for Kant? Life, in the context of an embodied being, indicates the community of the soul with an organized body or organism (e.g., A345/B403).

There are three dimensions to the soul as the principle of life:

- (α) it is the ground of self-motion in a body (physics)
- (β) it is the ground of representations in the subject (anthropology)
- (γ) it is the intelligible supersensible ground of activity (morals)

Kant's hypothesis: the same bare supersensible Something "is called a body in one relation," and "a thinking being in another" (A359).

The paradox of organisms: The law of inertia states, "every change in matter has an external cause" (4:544). How, then, can there be material beings that move themselves?

§3 – Organisms as natural ends and the analogy with life

Before turning to whether Kant holds plants exhibit (α)-(γ), we should examine Kant's most significant discussion of plants. Here he distinguishes living beings and organisms.

A Natural end (*Naturzweck*) "is cause and effect of itself" (5:370-4).

It's causal powers: reproduction, growth, and self-maintenance.

- (1st) Like a watch: a common form unites the parts together into the whole.
"one part is the instrument [*Werkzeug*] for the motion of another" (5:374).

- (2nd) also "self-organizing": each part is *productive* of the other parts.

An "end" for Kant is both:

- (a) "the *concept* of an object insofar as it at the same time contains the ground of the reality of this object" (5:180)

- (b) the “*object* of a concept insofar as the latter is regarded as the cause of the former” (5:220).

The origin of (a): for artifacts is in the maker; for natural ends it is unknown. It is *as though* the organism created itself in accord with our concept of its species-form.

Kant explains the formative power of organisms through an analogy with life (5:375-6). His thought seems to be that in life, the supersensible

“soul avails itself of the nerves as instruments [*Werkzeuge*] and through these immediately influences the remaining parts of the body; on the other hand the nerves are also the instruments [*Werkzeuge*] through which the body influences the soul” (*Met-M*, 29:908).

The organs remember, are instruments of one another and the whole organism.

So the analogy is between the formative power and the life power where:

- (i) The nerves are analogous to the organs that are being *used* as instruments.
- (ii) The parts of the body *using* the nerves are analogous to the organs that are *using* its other organs.
- (iii) the soul that is acting on the body through the nerves is analogous to the whole organism, with its formative power, that is ordering the organs in relation to one another through these organs.

§4 – (α) In favor of attributing an inner principle of motion to plants

Organisms reproduce, grow, and maintain themselves. Plants are organisms.

So plants will have an inner principle of motion—a principle for self-movement.

Is such merely nutritive motion sufficient for establishing life?

Some passages seem to suggest only *voluntary* motion is sufficient for life (*DSS*, 2:327_n).

But given the law of inertia, *any* change in matter that does not have an external cause—i.e. any non-mechanical and non-chemical change—is indicative of life (*MFNS*, 4:544).

Some such alien immaterial principle is required to overcome inertia.

§5 – (β) Initial evidence in favor of attributing representations to plants

Would Kant also claim plants represent or desire and “have psychological instead of mechanical causality” (*KpV*, 5:98)?

Interpreters like Ingensiep, Zammito, and Newton deny this in part on textual grounds.

The texts are inconclusive. Overall they suggest plants have desires but not sensations.

How can this be? Traditionally, desire—a capacity for making the objects actual—presupposes a faculty to represent what is actual. We will return to this below.

§6 – (γ) The supersensible souls of plants?

Should we infer from the self-motion of plants to the existence of a supersensible soul?

On this point plants are on all fours with non-rational animals. Two arguments against:

We cannot make determinative theoretical teleological judgments about organisms (5:417).

We can cognize practically the intentions of human beings and their free causality (5:484).

This justifies a moral teleology in our case (5:461).

But non-rational animate beings lack freedom. So no moral teleology is available for them.

From a theoretical point of view, although we can affirm the existence of a “supersensible substrate of nature,” we can determine nothing affirmative about it “except that it is the being in itself of which we know merely the appearance” (5:422, 412, 409).

So one thing it can seem we cannot affirm is that it includes the supersensible souls of organisms.

We attribute minds to other beings only through an analogy with our own case (A353-A354). We can abstract away from certain features of our minds—e.g., self-consciousness—when thinking about other kinds of subjects—e.g., those of non-rational animals (5:464_n). Analogical inference is somewhat speculative insofar as it is “empirical” (*JL*, 9:133). With powers as distant from ours as a plant’s, this attribution can seem quite tentative.

These two arguments are connected. The first is an instance of the second. Analogical inferences are made through the reflective power of judgment (*JL*, 9:132). This is what we do when we observe the motion of animals, attribute representations to them, and form reflective teleological judgments about them. Because of this, teleological judgments are grounded in an analogy with our moral teleology.

Still, the first argument will not stand as stated. Although teleological judgments are merely reflective, he often attributes a supersensible ground of activity to organisms.¹

This happens by way of an analogy with our own case.

When we act, we choose to move our bodies, through our spontaneous free will and reason. He draws an analogy with this and the actions of non-rational animals (beavers) (5:464_n). We cannot infer that the beaver’s acts are free—it only has an analogue of reason—but through the shared genus of <living being> we can attribute representations to it. This attribution, since it happens through the genus life, also seems to warrant the attribution of a supersensible soul or life principle.

Because both of these attributions happen by way of this analogy, both are merely reflective; both can only regulate natural investigations, not be the result of them.

The same will hold for plants. Just as Kant attributes life to the beaver on the basis of its self-motion, he would attribute life to a quince tree on the basis of its self-motion.

In both cases this seems to involve the reflective attribution of a principle of life—an intelligible supersensible ground of activity.

Perhaps, however, with respect to representations there is a relevant disanalogy.

The beaver has an analogue of reason because of its “artistic actions” and “constructions.”

A quince tree, however, does not build anything other than itself or its quinces.

Its products at most exhibit a unity like that of our own body, with its autonomic functions.

For this reason, although the quince and the beaver both warrant the reflective attribution of supersensible souls, perhaps only the beaver warrants attribution of representations.

§7 – Against attributing representations to plants

There are two powerful arguments for denying desires to plants:

(1) Their subjects don’t seem to have the requisite unity:

Non-rational animals have a *reproductive imagination* and faculty for *apprehension*.

Apprehension requires *empirical consciousness* (see, e.g., B202; *Anth* 7:134_n).

There is no evidence that Kant attributes these three powers to plants.

So plants do not have the kind of unified subject requisite for representations.

(2) Because plants aren’t conscious, they don’t feel pleasure, don’t desire, or represent:

¹ See, e.g., R4534, 17:585; *Met-M*, 29:906-907; *Met-H*, 28:116-117; *Met-L1*, 28:276.

Kant holds that pleasure (*Lust*) is a conscious state (*KU*, 5:220).
But “each desire is grounded in the sense of anticipated pleasure” (*Met-L2*, 28:587).
So desiring beings must be capable of conscious states.
Plants, however, are not.
So, plants don’t feel pleasure, desire, or represent.

§8 – Plant desire

Both of these hinge on empirical consciousness being a prerequisite for representations.
Whether this is so is a difficult and complex topic that will occupy most of the rest of the talk.
This section will address the second: it will examine the possibility of plant desire.
The next section will examine the possibility of a representing plant subject.

Agreeableness: “the feeling that urges the subject to **remain** in the state he is in” (*Anth*, 7:254).
Mere agreeableness can contrast with ‘pleasure = conscious agreeableness’
Suggests that there are desires grounded in mere agreeableness, but lack consciousness.
And that suggests a simple faculty of unconscious desire may be possible.

What of our problem from §5? How could plants have desires but not sensations?
Kant’s distinction between objective and subjective sensations can help. (5:206)
Objective sensation (sensation proper): “The green color of the meadows”
Subjective sensation (feeling): agreeableness, “through which no object is represented”
In §5 Kant seemed to have in mind objective sensations, not feelings. So plants might still feel.

What kind of desire might plants be capable of? Well, first, what is desire?
“The faculty of desire is the faculty to be, by means of one’s representations, the cause of the objects of these representations” (*MM*, 6:211).
In this way Kant defines the faculty of desire as the power that operates through a distinct *form* of representation: one that causes the actuality of its object.
It is efficacious representation. It is a “*striving (nisus)* to be a *cause*” (*MM*, 6:356).

Specific kinds of desire are efficacious in different ways. Some kinds:
God’s: no distinction b/t desiring and cognizing. God is not affected, so has no feeling.
Human beings?: the faculty of desire can be determined through pleasure or reason (5:9n).
We freely choose.
Non-rational animals?: desire is determined through pleasure (conscious agreeableness).

Plants? They work for the sake of ends dictated by its species-form. This is striving.
But as we find no evidence that non-rational animals are free, we find no evidence that plants have consciousness.

What, however, is the structure of plant desire?
Merely agreeable/disagreeable. It concerns a present state, with no anticipation.
So all that is left to the quince’s desires are representations that:
(a) are a striving to remain in a state that produces an agreeable feeling, or
(b) are a striving to leave a state that produces a disagreeable feeling.
Phototropism: a partially shaded plant strives to leave a disagreeable state and preserve an agreeable one by growing towards the light.

§9 – The representing subjects of plants

What kind of unity might a plant subject have? How does it coordinate these desires?

In conscious beings, representations have two kinds of magnitude:

(i) extensive: across time, or insofar as there is a succession of them in the mind.

(ii) intensive: they fill consciousness with a given degree of intensity.

Both of these kinds of magnitude depend on empirical consciousness.

If plants are to have a representing subject, then they need to be able to coordinate their activities and representations both extensively and intensively. How could they do this?

The species-form fixes the plant's needs, which determines what is agreeable or disagreeable. Their species-form will also fix their instincts, which will ground their desires.

Still, how can the plant coordinate its growth, given that it cannot *compare, attend, or choose*?

Kant will draw an analogy between the water in plants and ventricular fluid (12:34).

Both serve as the material conditions of inner activity.

Perhaps the plant can coordinate its activities through coordinating changes in the "immeasurable manifoldness of partly volatile matters" produced from water.

If that were so, the plant subject would lack extensive unity, apart from the physiological unity of its organism, but perhaps this is a sufficient medium for desire coordination.

But how might we make sense of the intensive magnitude of plant representations?

Because our representations have a conscious component, we will struggle here.

Perhaps the formative power of the younger tree might, for example, exhibit more vitality than the older tree, because it grows faster, heals quicker, and produces more seeds.

This more ardent activity of the younger tree, in turn, would be indicative of more intense desires, and perhaps correspondingly more intense feelings.

§10 – The absence of souls in Kant's teleology

If the above considerations are correct, then it can seem strange that Kant does not discuss the desires and souls of plants in his teleology.

Why does he instead turn to God or nature in general as the medium of God's creation?

In natural teleology, neither (β) the psychological subject, nor (γ) the supersensible soul are part of its topic. Still, God is supernatural and does have a role, so why not souls too?

The answer lies in Kant's account of organisms as natural *ends*.

If we attribute souls to non-rational living beings, this can perhaps ground a kind of reflective psychological teleology of them.

But psychology is not Kant's topic. Rather, he wants to investigate how there could be such organisms in the first place.

And for that only an appeal to God or nature, as the medium of God's creation, will do.

This is because only God could have made organisms; only God could be their ideal cause.

Response to Holdier's comments:

Holder raises an important and fundamental question for my account of Kant:

How does Kant separate the self-active or spontaneous activity of organisms that is my topic from, say, the merely chemical reactions involved in, say, fire's burning tin?

Substances have powers to both act on, and be acted upon by, other things.

Active powers are powers to change the state of a substance.

Passive powers are powers of a substance to have its states changed by a substance.

We find both active and passive powers in inanimate beings: the sun (agent) shines on the stone (patient) and warms it.

In the combustion of tin, Kant holds the phlogiston reacts with the heat, and is released into the air, which explains the power of the tin to burn.

Neither the tin itself, nor the phlogiston in it, begins the combustion.

That requires an external condition: heat. The exercise of the inner powers of organisms also requires external conditions. So what distinguishes them?

Organisms are self-active: the tree is neither merely acted upon, nor merely acts on others, but acts on itself. Unlike the sun, it is both agent and patient in its own self-activity.

How does the power of a living being to determine its own motion exhibit such self-activity?

Whether the power to combust is actualized depends *merely* on the presence or absence of certain external conditions (heat, etc.). Because of this it is mechanical.

There is no principle in the thing that works to bring about or avoid these conditions—there is nothing in the tin which makes it so that it ought to burn or not.

But (a) in the case of a quince (end as object), it seems as if its parts *should* be ordered according to its species-form (end as concept). The quince fruit's astringent taste puts off many would be foragers, and the tree as a whole seems to work to maintain this order among its parts, etc. It thereby causes motions in matter to achieve these ends.

In this respect (b), it is as if the quince *determined itself* to motion and rest according to how instances of its species should be. For this reason, it is as if the quince were self-active or spontaneous—as if it were the origin of the movements in its parts—while the tin is inert.²

Finally, (c) it is non-accidental that self-active powers are self-directed. The burning tin may happen to burn itself, but its power to burn can burn anything. If it also happens to suffer its own burning that is not properly self-activity, because the tin can equally burn other things. In contrast, the formative power of the quince is self-active because it is the power of its parts to work on one another.³

² Kant discusses this kind of movement involved in growth at *KU*, §64. Specifically, he discusses how the “plant first prepares the matter that it adds to itself with a quality peculiar to its species, [...] and develops itself further by means of material which, as far as its composition is concerned, is its own product” (*KU*, §64, 5:371). This matter, then, is not a mere educt, but is a product of the organism's own species-form, and it is clear that Kant holds this form will control and limit the plant's growth. On this peculiarity of organic growth compare *De An.* II.4, 416a1-20, where Aristotle makes a similar point: it is the soul that controls motion and growth in the organism, and it is the soul that explains why the natural motions of the fire and earth in the plant do not tear it apart.

³ This entails that powers to act on the world are not self-active powers, which might seem surprising. After all, in exercising my power to act, I don't merely have the power to move my limbs—to, say, lift my arm—but I also have the power to, say, lift my glass. Still, in exercising these powers I am acting on *the glass* (or *the world*), not on myself. It is, thus, no wonder that these powers are not *self*-active. Nonetheless, nothing precludes externally directed powers, like the power to lift a glass, that presuppose a self-active power, like the power for self-movement. (Thanks to Kathryn Lindeman for conversation on this point.)

Response to Kronfeld's comments:

I see a good deal of epistemic Humility in my account, and so I'm not entirely clear on the places where we disagree.

As a result let me make a few remarks that might be helpful for clarifying this disagreement.

On my reading of Kant, wherever we find a power, it must have some absolute ground.

This will be a thing-in-itself, and so be a supersensible Something.

The thought of this bare existence is analytically contained in the thought of a power.

Yet, *qua* thing-in-itself, we can not have any determinate cognition of it.

In particular, although from the existence of a power, I can cognize analytically that there is some being that has this power, I can have no synthetic cognition of this being.

Synthetic, material cognition is cognition properly speaking, and that requires intuition.

I have no intuition of the supersensible, especially of myself as I am in Myself. So I have no theoretical cognition, properly speaking of the supersensible.

I do think a presupposition of the moral law is that we exist as supersensible intelligences that act freely.

So in a way there is an inference from my consciousness of the moral law to my freedom.

Nonetheless, the connection between my consciousness of the moral law and my consciousness of freedom is so close that Kant will claim they are the same thing (5:46).

Furthermore, in the *Critique* Kant claims that human beings "cognize (*erkennt*)" themselves "also through pure apperception" and are obviously an intelligible object (A546/B574).

This analytic cognition comes through the faculty of understanding and reason.

So when we move from the practical to the theoretical there is no role for an inference in my consciousness of Myself that I am, that I exist as an intelligible being.

But notice, I still have no intuition of myself and so have no synthetic cognition of myself as I am in Myself, and do not cognize any determinations of this Self.

So while I agree that there is an analogical gap when it comes to ascribing supersensible souls to non-rational living beings, in the first person case there is no gap.

But what of the transference of what self-consciousness necessarily posits of me to another person? That is, the relation between the first and second person.

Here I think this transference involves an analogy between my mind and powers and your mind and powers.

Nonetheless, I think it is not an empirical analogy.

This can seem to conflict with the *Jäsche Logic*, insofar as that discussion seems to suggest all analogical inference is empirical.

I think the first to second person case shows is that this isn't right.

Some analogies hold *a priori*.

And indeed, an even clearer case of *a priori* analogies can be found in mathematics through ratios. Here the fourth term is deduced from the first three *a priori*.

Another *a priori* example is the Analogies of Experience.

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