International Workshop

Change and Changemakers in Ancient Philosophy

1 & 2 July 2021, Online

Content

About this workshop

Change and changemakers are a central focus of much ancient philosophy. This workshop "Change and Changemakers in Ancient Philosophy (CCMAP)" will seek to identify ideas from these ancient discussions which have salience to our contemporary philosophical debates concerning change, suggesting how these ideas may advance our current thinking.

This workshop CCMAP is a collaborative initiative of the Change and Changemakers Network (Siegen) together with the Mereology of Potentiality Project (Oxford). It is organized by Anna Marmodoro and John Pemberton.

CCMAP has secured arrangements for a special issue of papers related to the conference theme with Ancient Philosophy Today: DIALOGOI. This journal provides a forum for the mutual engagement between ancient and contemporary philosophy, and the application of ancient theories to current philosophical debates. All conference presenters and participants are invited to submit papers on the CCMAP theme. In order to achieve timely publication, the submission deadline for papers is 15 August 2021. The volume, which will comprise 5-6 papers, will be guest-edited by John Pemberton and is scheduled for publication in April 2022.

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Niko Strobach
How to Make Things Worse – On Plato, Pol. X 608d-611a

1 July 2021, 9:10, Talks & Discussion I

Even if the last argument for the immortality of the soul in the *Phaedo* succeeds to show that deathlessness is among the soul's essential properties, it fails to establish that the soul is indestructible. However, a less prominent, extensive, sophisticated and, in some details, surprising argument in book 10 of the *Republic* (Pol. X 608d-611a) is supposed to show precisely this. It relies on an elaborate story about change-makers, since it argues for the indestructibility of the soul against the background of a general theory of changes for the worse in things and how they are effected. Its central notion is that of a thing's specific proper badness (kakía, ponería) as the cause of its perishing. Food poisoning is analysed as one proper badness (being rotten) in one thing (food) inducing another badness (disease) in a different thing (the body). The soul is held to be indestructible because, exceptionally, its proper badnesses, although making it bad, are not destructive; and because bodily badnesses do not induce badnesses of the soul according to the natural order of bad-makers.

Ryofu Pussel
Dōgen Zenji's Being-Time

1 July 2021, 9:10, Talks & Discussion I

Dōgen Zenji (1200-1253) is widely regarded not only as one of the most important Zen-Masters, having established the Sōtō-Zen-school in Japan, but also as one of Japan's greatest philosophers. In particular, his monumental work Shōbōgenzō ("Treasure Chamber of the Eye of True Dharma") consisting of ninety-five fascicles and composed between his ages thirty-two and fifty-four, is generally considered as one of the most outstanding works of religious and philosophical literature in Japan. This talk analyses fascicle 20, Uji, written in November 1240 in the Kōshōhōrin-ji-monastery. It introduces the key element of his philosophy, which is directly related to this workshop. As it is one of the most difficult to comprehend parts of this work, the contents will be analysed mindfully in a way that Japanese language proficiency is not necessary. The key element can already found in the title: Uji, which can be translated as Being-time in English (or Sein-Zeit in German). This is, of course, linguistically incorrect: time must, by its nature, for example be devided into past-, present-, and future tense. So, it would have to be 'was', 'is', 'will be'. Or not? Dōgen argues that there are no such things, and that all existence is manifested in this very moment. This moment, then, is never changing, although the next moment is created differently (the concept of constant change as inherent nature of all things in existence is hereby not denied). However, he argues that time is always momentary, and that this moment is the only moment there ever is – in which existence and time come together. Furthermore, action can only be realised in time, and time only in action.

In other words, Dōgen argues that there is a flow of time and action only on a superficial level; in true reality, time and all processes and events (the occurrents) are only stably manifested in this very moment only (the continuant) – therefore, he concludes, all must be being-time. Does this add to the theory of persistence? We shall see…

Anna Marmodoro
Causes as Difference-Makers in Plato's Metaphysics

1 July 2021, 10:50, Talks & Discussion II

I argue that for Plato, speaking generally, *causes are powers to make* [something in the world] *different* (*Sophist* 247e1). Plato conception of causes as difference-makers enables him to then classify as causes both, Forms in the World of Being and things in the World of Becoming. However, although the role of both these types of entity, the Forms and sensible things, is causal, they are two thoroughly different kinds of difference-makers: Forms are difference-makers *constitutively*; while sensible things are difference-makers *efficiently*.

Daniel Saudek
Understanding the Relationship between Causal and Temporal Asymmetry: A Neo-Aristotelian Approach

1 July 2021, 10:50, Talks & Discussion II

What is causal asymmetry, and what does it mean for an effect to depend on a cause? The elusive nature of causal asymmetry and the problems with counterfactual accounts of causation have led some to abandon the very distinction between cause and effect, and others to postulate this distinction as a primitive not in need of justification. This contribution goes neither route, but instead offers an Aristotelian approach to causal asymmetry, according to which the possibilities which a particular entity can realize are both spanned and constrained by what is "in" the entity. Also, because the familiar cause-effect distinction may be the effect of our temporal perspective – as Huw Price has argued – I will not start from a consideration of instances of change, but rather of what I call "proto-change": the existence of two states of an entity independently of the temporal order between them. Based on this, the argument proceeds through the following steps:

1. The notion of being "possible with respect to" an entity is developed: an entity *x* is possible with respect to an entity *y* if it can be obtained from that, and only that, which is "in" *y* – i.e. *y*'s constituents, their kinetic or potential energies, and *y*'s total momentum. A proto-change of an entity depends counterfactually

on the existence of an entity distinct from it whenever one of its states is not possible with respect to the other: for example, when one of the two states contains a constituent which the other does not, or has total momentum different from that of the other. Since this counterfactual dependence hinges on proto-change, rather than change, it is time-independent and does not fall prey to Pricean perspectivalism.

2. A brief crash-course in local time, in particular the local distinction between "before" and "after" is given, an account which is based on the collection of states of a given object and on a characteristic asymmetry which appears on this collection.
3. It is now possible to spell out how the time-independent counterfactual dependence (in 1) relates to temporal order (in 2): why do changes seem to depend on something that must be there *before* they occur (or at any rate, no later)? Let x be and entity and p a property such that *x-without-p* is observed to exist before *x-with-p* in local time. Based on the considerations in (1), I argue that an entity – call it y – distinct from x and having p must exist. Next, let W be a collection containing the states of both x and y, and let W_1 be the state containing *x-without-p*, W_2 the one containing *x-with-p*. It is shown that *y-with-p* cannot exist in W_2, since this would lead to a contradiction, and must therefore exist in W_1. By a further simple argument, this result is then extended to the case of n states of x, where $n > 2$.

In sum, we find that there is a robust counterfactual asymmetry independent of the direction of time, but nevertheless that which is necessary for a particular change to occur –that which we call its cause – must precede the change in local time.

Thomas Seissl

Why Does Aristotle Say That All Change is Continious?

1 July 2021, 13:00, Talks & Discussion III

Despite all interpretative difficulties, it is fairly clear that one main aim of Aristotle's *Physics* deals with rejecting all forms of atomism – of space, time, movement. Thus, he holds that all changes happen continuously (*Physics* III.1, 200b16-18; IV.11, 219a12-13; VI.4, 234b10 *et passim*), i.e. are infinitely divisible. The issue of how this Aristotelian claim can be justified is quite in disagreement among interpreters. Aristotle, overtly, proposes two strategies to overcome the Atomistic challenge: in *Physics* III-IV, he argues that the continuity of time and change can be explained by appeal to the continuity of magnitude; in *Physics* VI, arguing for the continuity of change, in contrast, is warranted by the continuity of the changing thing's body. Curiously enough, Aristotle seems to accept the possibility of discontinuous changes in at least two passages in the *Physics* (I.3, 186a13- 16; VIII.3, 253b23-26) and one passage in *De sensu* 6 (446b28-447a3). In all of these three passages, he introduces the claim that some changes happen "at once", "instantaneously" or "all together" (ἀθρόος). His prime example is freezing. This flatly contradicts his claim that all changes happen continuously.

In my paper, I shall argue that Aristotle's line of argument actually operates with conflicting accounts of continuity in *Physics* III-IV and VI, since there are different notions of moving causes at work. On my interpretation, this conflict is only ruled out in *Physics* VIII Aristotle reassesses his strategy of explaining continuity. The recourse to *Physics* VIII has at least two advantages in my view: it, first, offers a framework which satisfies both approaches: continuity by magnitude and continuity by bodily extension. Second, it gives some insight on why Aristotle could speak about changes happening "at once". This, in turn, appears plausible in view of Aristotle's definition of change (*Physics* III.1, 201a10-11), or so I shall argue.

My paper proceeds as follows. The first section discusses Aristotle's definition of change. From there, we shall have a look at the two different and mutually exclusive approaches to the claim that all changes are continuous. In the third section, I will recapitulate the results from the first section and show how, in my understanding, the continuity of change can be justified by integrating the approaches from the second section with appeal to *Physics* VIII. In an epilogue, I discuss how this issue is relevant in a dispute between Simplicius and John Philoponus. A result is that the Aristotelian concept of change is seemingly familiar to us, but differently motivated from questions raised in modern discussions.

Sean M. Costello

Aristotle on Building the World from the Ground (and other Elements) Up: An Eduction-Driven Theory of Hylomorphic Ordinary-Object Ontology

1 July 2021, 13:00, Talks & Discussion III

The ancient Greeks, like metaphysicians today, were exceptionally interested in questions concerning ordinary-object ontology and the fundamental building blocks which composed such objects. In particular, they investigated the threefold intertwining topics of (1) what objects were to be admitted into their ontology, (2) what these objects had to be like metaphysically in order to be ontologically robust, and (3) if – and, if so, how – such objects were able to undergo changes and transform into one another. The purpose of this project shall be to elucidate Aristotle's thoughts on these matters, with particular attention being paid to his positions concerning the second and third topics.

I begin this work by briefly delineating the intellectual environment amongst which Aristotle developed his own metaphysical views, pointing out his Eleatic, ontological monist, and ontological pluralist predecessors. Then, after briefly unpacking several of Aristotle's key relevant theoretical innovations, I contend that, in answer to (1) – and due to his commitments to a modest form of empiricism, formal causation, and his tenfold categorical schema – he must hold a naïve ontology, wherein inanimate natural objects, living beings, and (though there is some controversy over this) even artifacts are considered to be ontologically robust.

I then emphasize that, due to Aristotle's deep respect for the intellectual tradition that he inherits, his answers to (2) and (3) must be informed by overcoming two worries raised by the Presocratics – namely, (i) the Parmenidean concern about generation from, and corruption into, nothing *simpliciter* and (ii) the dual-pronged

worry of reducing generation and corruption to alteration either by positing (a) a single substratum, as the monists do, or (b) indestructible elements, as the pluralists do. Recognizing that examining the manner in which the elemental building blocks – which, for Aristotle, are the Empedoclean four of fire, air, water, and earth – interact with one another will most-clearly reveal Aristotle's metaphysical principles of hylomorphism, I turn to examine his theory of elemental transformation, intending to provide by an answer to (2) through discovering an answer to (3). With this in mind, I examine several of the prominent modern scholarly attempts to understand how elemental transformation occurs, testing them against the need to avoid the two Presocratic worries mentioned above. I find, however, that all of these theories fall prey to one of the two worries – with the positions put forth by Zeller (1897), Furth (1988), Gill (1989), and Charles (2004) all violating the first concern and Lewis's (2008) theory violating the second.

With the logical space cleared, I then present an alternative explanation of Aristotle's answer to (3), wherein elemental transformation occurs according to certain essential, second-potentiality 'eduction conditions' (conditions, grounded in the currently-existing hylomorphic element itself and expressed in its account, for a new element to be substantially educed from the currently-existing element), and is kept track of by a 'hylomorphic history property' (a property of the newly transformed element explaining that it was 'actually educed from' the previous element). I suggest that such a position is able to avoid both Presocratic worries and then explain how this means that, on Aristotle's view – in answer to (2) – the hylomorphic substance should be treated as ontologically basic, possessing the inextricably linked logical principles of matter as potentiality and form as actuality as aspects of its essence. I then briefly conclude by demonstrating how this theory can account for both horizontal substantial change (i.e. between elements) and vertical substantial change (i.e. between elements and more complex objects).

Simon J. Evnine

The Metamorphosis of Artifacts

1 July 2021, 14:40, Talks & Discussion IV

The efficient cause, for Aristotle, is the principle of motion and change for what it brings into existence. Intriguingly, Aristotle says that the efficient cause of something often coincides with its formal cause (what it is) and its final cause (its purpose or characteristic life form). In previous work (*Making Objects and Events: A Hylomorphic Theory of Artifacts, Actions, and Organisms*), I have developed an account of artifacts that attempts to do just to this insight of Aristotle's – the insight, to put it in more contemporary terms, that one cannot give an account of what an artifact is (to what artifactual kind it belongs) independently of how it comes to exist and what its function is. An artifactual kind K is associated by definition with a certain function F (as a chair is for sitting on). A K comes to exist when a maker imposes the concept K on some matter, by working on that matter with the intention that it should come to constitute a K.

In the present paper, I wish to consider a certain kind of change, a metamorphosis, that artifacts can be subject to, if one thinks of them in the way I have indicated. On my account, artifacts are ideal objects – not in the sense that they aren't real, but that they are essentially tied to intentions with which they are made and, in some sense, carry the marks of those intentions in their essence. Such objects, therefore, are likely sites of ideological contest. When some user, or users, treat an object made by the imposition of one set of concepts onto matter as if it were something different, their intentions exert an ontological force on the object, jostling with the marks of the original creative intentions. If successful, they will transform, or metamorphose, the objectinto something new. Ideological contest can have an ontological reflection.

Two different, though related, cultural arenas where this kind of analysis may be illuminating are cultural appropriation and what is referred to as 'queering.' With regard to the latter, Sara Ahmed (*What's the Use? The Uses of Use*) describes a variety of practices under the heading of 'queer use.' In queer use, artifacts associated with oppressive power structures are made use of in unintended ways as a way of subverting those structures. Here, the ontological transformation I am envisaging has a positive character. In cultural appropriation, it has a negative character and objects are ontologically debased by being used 'against the grain.'

Petter Sandstad

Change, Hylomorphism, and Mereology

1 July 2021, 14:40, Talks & Discussion IV

Parmenides argued for the impossibility of change: there is only being and non-being, but no change from one state into the other state. Both Plato and Aristotle argued against this Parmenidea view – here I will restrict my discussion to Aristotle.

For accidental change, Aristotle accounts for the possibility of *x* changing, in that *x* maintains its form. For instance, Socrates can change from being white into being tanned, since Socrates throughout this process maintains his form (i.e., he continues being a human). For substantial change Aristotle requires another answer, because substantial change involves loss of form. For instance Socrates takes hemlock and dies, or wine turns into vinegar. In these cases, Aristotle holds that something else remains through the process of change: the underlying matter of the thing. To sum up, Aristotle holds that accidental change is possible when a thing maintains its form through the process of change, and that substantial change is possible when a thing maintains its matter through the process of change. Taken together, these seem to imply that Aristotle's answer presupposes hylomorphism, the doctrine that substances are composed of matter and form.

In this talk I argue that Aristotle had the resources needed for a non-hylomorphic account of change. Instead, I make use of Aristotle's mereology. This alternative has fewer and less controversial presuppositions: it is less controversial to say that *x* has a form and has parts, than to say that *x* is a hylomorphic compound of form and matter.

The difference lies in the account of substantial change. On the alternative account, which Aristotle could have defended (but probably did not), *x* can lose its form because one or more of its independent parts continues existing throughout the process of change. For Aristotle, many parts are dependent upon their whole (here Aristotle prefers "meros"), but some are independent from their whole ("stoicheion"). For instance, the elements composing Socrates are independent from Socrates, while Socrates' hand and Socrates' whiteness are both dependent upon Socrates. By connecting Aristotle's account of the possibility of change with mereology (and disconnecting it from hylomorphism), we get an account with more applicability to and relevance for contemporary discussions. And our contemporary theories of mereology can enrich Aristotle's discussion of change.

Helen Steward

Two Kinds of Two-Way Powers

1 July 2021, 16:20, Talk & Discussion V

Discussions of the concept of a two-way power often acknowledges the Aristotelian roots of the idea that there is an important distinction to be drawn between two significantly different classes of powers, which Aristotle terms 'rational' and 'non-rational'. Subsequent discussion of the Aristotelian legacy (not surprisingly, given the Aristotelian nomenclature) has developed the distinction between one-way and two-way powers largely within the confines of the constraint that only rational agents are to be found to possess the relevant distinctively 'two-way' powers. In this paper, though, I shall argue that in fact there is more than one important distinction to be recovered from the relevant Aristotelian texts which might be called 'the distinction between one-way and two-way powers', and that freeing ourselves from the shackles of the constraint represented by the thought that only rational agents can possibly possess the two-way kind might enable us to develop a distinction with deeper metaphysical roots.

Notes on day 1

Barbara Sattler

The Beginning and End of Motion in Aristotle

2 July 2021, 9:10, Talks & Discussion I

In his *Physics*, Aristotle seems to work with two different accounts of the beginning and end of a locomotion: On the one hand, a particular locomotion is understood as a movement from A to B so that A counts as the starting point, and B as the end point. On the other hand, a particular locomotion is what occurs after something ceases to rest and before it rests again. These two accounts could obviously come apart – as is the case when in approaching my end point of my journey from Athens to Corinth I decided not to stop once I have arrived in Corinth, but carry on in the direction of Sparta. Here "being in Corinth" seems to be part of what makes it the *kinêsis* from Athens to Corinth, and Aristotle often specifies a motion by its end point, while 'being at rest at Corinth' is, so to speak, definitionally posterior. However, Aristotle's definition of motion in *Physics* III seem to speak in favour of a motion being essentially determined by not being at rest, as this is the point at which the potentiality in question will be fully actualized. In this paper I will investigate which of the two accounts enjoys priority in Aristotle and why; I will also inquire how this discussion features into the infamous problem of how to conceive of the transition from motion to rest in Aristotelian terms.

Aleksei Pleshkov

What Makes Time Change? The Temporal Status of the Receptacle in Plato's Timaeus

2 July 2021, 9:10, Talks & Discussion I

The problem of time seems to be central to Plato's philosophy. Since forms are eternal while the world and everything within it are temporal, the differentiation between time and eternity lies at the heart of his ontology. Despite the crucial importance of the concepts of time and eternity for Plato's philosophy, not until the *Timaeus*, one of the latest dialogues in the *Corpus*, does he offer a more or less complete analysis of these concepts. Following the famous passage of the dialogue (*Tim*. 37d1–38b5), we can describe eternity as an absolutely changeless and motionless state of being "abiding in unity" and "only *is* is appropriately said of it." Time presupposes change and motion, it is "moving according to number" and can be described in terms of "was and will be". These elegant definitions (even though they are far from unambiguous since Plato calls time "an eternal image" (αἰώνιος εἰκών – *Tim*. 37d7) of eternity) grounds the conventional for the later European philosophical tradition dichotomy of 'time and eternity'.

However, the dichotomy of 'time and eternity', while Plato is credited as its founding father, does not fit Timaeus' ontology well. In the dialogue, the third ontological level is introduced, the receptacle (to use it as an 'umbrella term' describing the object of the second Timaeus' discourse (*Tim*. 47e–69a)), which is sharply distinct from ontological levels of the forms and of the things. Surprisingly, the question of the receptacle's temporal status was hardly discussed explicitly in the research literature. By default, Plato's receptacle is considered to be eternal. According to Timaeus' story, not only the paradigm but also the receptacle exists before the organization of the cosmos (cf.: *Tim*. 30a2–6; 47e4–48a7; 68e1–69a5). Since time

arises only with the creation of the cosmos (*Tim.* 38b6 ff.), it means that the receptacle is outside of time. Following the conventional dichotomy of time and eternity, the timelessness of the receptacle leads to the conclusion that it is eternal.

The traditional dichotomy of time and eternity fits well the dyadic ontology of the Abrahamic theological tradition, where we have (i) temporal profane world and (ii) its eternal divine creator. Unlike this tradition, the demiurge in the Timaeus does not create the world *ex nihilo* but arranges it from the previously unformed disorder depended on the intelligible principle. Thus, we have a triadic ontology, with three different ontological levels: (i) the eternal paradigm, (ii) the temporal cosmos, and (iii) the receptacle. Since the eternity for Plato is the key and specific characteristic of the forms, it is doubtful that the receptacle, the metaphysical antonym of the forms, is eternal. At least in the sense of eternity that characterizes Plato's forms. To distinguish the eternity of the paradigm from the 'eternity' of the receptacle, I propose to use the concept of instantaneousness to designate the latter. The choice of the term is not accidental and refers to "the instant" (τὸἐξαίφνης) introduced by Plato in the *Parmenides* (*Parm.* 156d2–157b5). Thus, in my talk I would like to introduce and discuss the instantaneousness of the receptacle as the third temporal status alongside time and eternity. I argue that eternity as a paradigm for time guarantees its stability and perfection, while instantaneousness as a necessary condition for time stipulates its changeability and incompleteness.

John Pemberton

Aristotle's Persisting and Changing

2 July 2021, 10:50, Talks & Discussion II

Although Aristotle does not explicitly address persistence, his account of persisting may be derived from a careful consideration of his account of change. On my interpretation, he supposes that motions are mereological unities of their potential temporal parts – I dub such mereological unities 'lasting'. Aristotle's persisting things, too, are lasting, I argue. Lasting things are unlike enduring things in that they have temporal parts; and unlike perduring things in that their temporal parts are not actual, but rather are potential. Lasting, that is Aristotle's persisting, is thus a distinctive alternative to enduring and perduring. I show how Aristotle uses lasting to resolve paradoxes associated with changing: Zeno's arrow paradox and the no-successor problem.

Tiberiu Popa

Aristotle on Microstructures and Capacities

2 July 2021, 10:50, Talks & Discussion II

The capacities for change of what Aristotle takes to be uniform materials are essential to his explanations of various higher-level capacities (e.g., mental or temperamental dispositions, the functions of instrumental parts, specific capacities for the development of embryos etc.) and also to the ways in which we can manipulate organic and inorganic homoeomers.

A potentially illuminating aspect of Aristotle's accounts of material properties that has not been explored as systematically as his treatment of *dunameis* is his reliance on *structural* characteristics that are imperceptibly small, but presumably inferable – if not with certainty, at least with a high degree of confidence. This may look at first sight rather counterintuitive, given that he excoriates various brands of atomism. Aristotle's *GC* (I.10 and II.7) puts forth an account of uniform substances based on a concept of thorough combination (*mixis*) that is quite unlike, say, Democritus' appeal to the combination and recombination of irreducibly small particles.

And yet, without contradicting himself, he also speaks quite liberally and with no apparent hesitation about invisible channels which render certain solids soluble, squeezable or combustible, about interlocking structures that explain viscosity, about undetectably small bubbles that account for certain dispositions of semen and olive oil, about earthy fibers in most kinds of blood, or apparently discrete earthy corpuscles in milk, and so on. Such causal factors are put to work in *Generation of Animals, Parts of Animals, Meteorology* etc. in addition to the fact that chemical combinations (especially of earth and water in various ratios, sometimes of air as well) can also causally explain a wide range of passive and resistive capacities.

While references to such microstructural features are rather numerous, they don't constitute the object of a distinct inquiry in Aristotle. To see what he thinks about their explanatory role and about the confidence with which a natural philosopher can reasonably invoke them, we need to consider several passages that I find mutually relevant and that together offer a striking outline of his interest in microstructures. A close look at some of those passages is worthwhile for three reason:

- It can help us better appreciate the place of those microstructures in his explanatory apparatus (in his 'biochemistry', in his biology and beyond).
- It can invite some cautious but hopefully profitable reflection on the relevance of his attitude (that is, his epistemic optimism with respect to unobservable structural characteristics and their explanatory prowess regarding capacities) to recent and current debates in metaphysics, philosophy of science and philosophy of biology.
- It can help us clarify key episodes in the reception of Aristotle's science and natural philosophy. His interest in various types of microstructures captivated several major figures in the early modern history of alchemy and 'chymistry'; they sometimes made him sound downright atomistic, while portraying Democritus as a proto-Aristotelian. I will not dwell, though, on this third aspect.

My main goal here is to capture Aristotle's careful connections between microstructures and the dispositions which they are meant to explain partially and which, conversely, function as signs or indicators for both the existence of microstructures (e.g., *poroi* and penetrating corpuscles of water) and for some of their peculiarities (e.g., the diameters and arrangements of *poroi*). I will also pay attention to the way in which he expresses the asymmetrical relation of dependence between dispositional properties and structural features.

In the final section of my presentation, I would like to suggest that Aristotle's use of microstructures in his explanations of sundry material dispositions raises questions that may be relevant (taking into account all the significant differences) to ongoing debates and can encourage some fresh reflection. In addition to the relation between dispositions and categorical properties and to the distinction between causation and grounding, I'm thinking especially about whether accounts of change in terms of mechanisms are compatible with discussions about dispositions and whether the two should even be regarded perhaps as mutually dependent.

Paolo Gigli

Change and Spatial Priority in the Theaetetus

2 July 2021, 13:00, Talks & Discussion III

The standard contemporary account of change explains it by using a notion of temporal priority, i.e., that which holds true of something at a certain time does not hold true of it at a later time. However, an explanation of change that avoids any reference to time is more appealing, also because the classical explanations of what time is are in terms of change. I will argue that Pl. Tht. 156c6-d3 suggests an account of change that avoids this problem. My presentation divides into three parts. In the first part, I criticise two common understandings of the passage and put forward and defend a third reading. According to this reading, any change involves two components, which stand in a relation of spatial priority. More precisely, I argue that Socrates makes three claims: (i) slowness and swiftness are present in any change, (ii) what is slow produces what is swift, (iii) what produces is spatially prior to what is produced. In the second part of my presentation, my main concern is to define the notion of spatial priority. I hence show that this notion can explain how production works without making any reference to metaphysical or temporal priority. In the third part, I use the notion of spatial priority to offer an alternative to the standard temporal understanding of change.

Ludger Jansen

Models of Substantial Change in Plato and Aristotle

2 July 2021, 13:00, Talks & Discussion III

Among the kinds of change distinguished by Aristotle, substantial change – coming into being and ceasing to exist – has not only pride of place, but is also of key importance for metaphysics. The talk will first sketch a model of substantial change based on Plato's *Politeia*, and then compare this with Aristotle's discussion of the topic. Doing so, I will draw on his accounts of changemakers in the Physics and Metaphysics, but also on passages from the Categories.

Tyler Huismann

Aristotle on How Efficient Causation Works

2 July 2021, 14:40, Talks & Discussion IV

When Aristotle explains efficient causation, he frequently does so using examples having to do with the activity of experts. Time after time, he speaks of builders building, doctors healing, and sculptors sculpting. They are central examples of efficient causes and cases that can be relied on when considering more intricate causal questions. So if we are to understand efficient causation within Aristotle's natural philosophy, we ought to have a good grasp of these examples. And it might appear that we do have such a grasp because of the widespread agreement regarding the mechanics of these cases: the art or skill characteristic of experts is what initiates a change that results in the product associated with experts; or simply, the arts these experts possess make expert products. The art therefore efficiently causes such products. There are precisifications, of course. Some say that the art is the first in a chain of efficient causes, or that it is one of multiple efficient causes of expert products, or that it is the "true" or "fundamental" efficient cause of such products. But the general point remains. The arts that experts possess are, by and large, taken to be efficient causes.

The aim of this paper is to reorient our understanding of efficient causation, on the basis of these examples. I will argue that, despite the consensus, there is a puzzle in Aristotle's texts as to what efficiently causes expert products (§1). The best way out of the puzzle is to read Aristotle as holding that arts are unable to cause efficiently (§§2-3). My argument is primarily based on a passage from *De generatione et corruptione* (GC) 2.9. The text is well-trodden, but there is a subtlety to the form of the argument therein that has not yet been identified. I will show that this aspect of the argument is crucial, for the argument's form yields a pivotal insight into efficient causes: for Aristotle, efficient causes are temporally contrastive, in a sense to be defined below. I then explain a tendency that Aristotle has for characterizing arts in such a way as to suggest that they are efficient causes (§4). He often claims that arts are makers, and it is for this reason that arts are presumed to be efficiently causal. But as he himself notes, there is an ambiguity in 'maker.' I rely on this ambiguity in arguing that one sense of this expression captures the relation of efficient causality, another captures the relation of formal causality. And so, when Aristotle maintains that the art of house-building made the house, this is true without the art of house-building being an efficient cause of the house, for the art of house-building is a formal cause of the house. The result is a coherent framework that takes seriously the logic of efficient causation as outlined in GC.

Arthur Harris

Multiple Motions and Mechanical Explanation in the Aristotelian Corpus

2 July 2021, 14:40, Talks & Discussion IV

A body cannot be in two places at once, but can a body undergo two changes of place simultaneously? Take a simple example. Does a sailor walking across the deck of a moving ship undergo one motion or two? From one point of view, there are two changes, the ship's motion and the sailor's walking, and both should feature in an explanation of what is occurring. From another point of view, the sailor has only one motion, since he traverses only one path through space. The relation between two component motions and the resultant motion is given by the parallelogram rule. One reason for thinking that all three cannot truly exist is that, if this were so, the moving thing would traverse twice the distance owing to the composition of three motions. Whether one regards only the components or only the resultant as real will depend in part on one's account of change.

It is well known that puzzles concerning composition and superposition in scientific explanations have appeared in various guises from the sixteenth century to the present day. Ancient perspectives on these issues have so far remained relatively unexplored, although the earliest extant instantiations of the 'parallelogram rule' are found in the Aristotelian Corpus. It is often assumed that Aristotle believed a body can undergo only one motion at a time. I aim to overturn this assumption, arguing that Aristotle believed a body

can undergo multiple motions simultaneously and took a realist view of component motions.

First, I argue that Aristotle's account of change in *Physics* 3 points towards a realist account of component motions. I show that this interpretation can clarify Aristotle's remarks on 'mixed' motion in *Physics* 8 and *De Caelo* 1, as well as some further passages in the *De Caelo* and *Meteorology*. Next, I consider three challenges for Aristotle's account of the composition of motions. Can the account be reconciled with (i) teleology; (ii) passages where Aristotle says that one motion is overpowered and destroyed by another; (iii) Aristotle's claim that it is impossible for a thing to undergo opposite motions simultaneously?

Finally, I show how this understanding of Aristotle's account of the composition of motions sheds light on the explanatory project of the *Mechanica*, attributed to Aristotle but more likely the work of an early follower. In this text, various natural and unnatural phenomena are explained in terms of the lever and ultimately of the abstract model of the rotating radius which traces out a circular path. *Mech*. problem 1 argues that this rotation results from two component motions, one radial and one tangential. Previous scholarship has treated these component motions as theoretical fictions. I argue that a realist reading makes better sense of *Mech*. problem 1's arguments and hence of the place of mechanics in early Peripatetic scientific investigations.

In my closing remarks I briefly discuss some implications of my argument for future work in the history and philosophy of science.

Johanna Seibt

The Energeia-Kinesis Distinction and the Modes of Dynamicity of Changes

2 July 2021, 16:20, Talk & Discussion V

In *Metaphysics* Q.6 Aristotle distinguishes *energeia* from *kinesis* by means of an inferential criterion which in the contemporary research debate is commonly referred to as the "tense test" or "completeness test." According to one popular reading of the passage, Aristotle distinguishes here two types of occurrents, which G. Ryle (1949) characterized as "achievements" and "task performances". Following Ryle's idea, Z. Vendler and A. Kenny developed well-known classifications for occurrence types in terms of inferential and linguistic criteria, which influenced three different areas of debate – the linguistic discussion about "Aktionsarten" and verbal aspect (aspectology), analytical process ontology, and, in turn, the interpretation of Aristotle's distinction between *energeia* and *kinesis*.

In my contribution, which is based on two chapters of a forthcoming book, I connect these three areas of debate and argue for the following claims: (1) While eminently important for heuristic purposes, extant Vendler-inspired linguistic classifications of occurrence types (Aktionsarten) should not be used in analytical ontology, since they do not have the required linguistic generality. (2) A linguistically general classification of occurrence types can be achieved in terms of the Kenny-inspired *modal interpretation of occurrence types* (Seibt 2004, 2015); here the 'standard occurrence types', activities, developments, achievements, and states, refer to *modes of occurrence*, which have precise definitions in terms of *networks* of aspectual inferences. (3) The inferential conditions of the modal interpretation adequately capture the 'logical space' for each of the 'standard occurrence types' and can meet resolve "phase problem" (J. Ackrill) of activities, a core objection against extant classifications of the 'standard' occurrence types. (4) Present-day distinctions between "processes" and "events" in terms of the progressive aspect do not align with the distinction between the notions of activities and developments ("accomplishments") or results ("achievements") in 'standard' (Vendler-inspired) classifications. (5) Similarly, given (3), Aristotle's distinction in *Metaphysics* Q.6 cannot – as suggested by D. Graham (1980) and A. Kosman (1984) – be understood a distinction in 'standard' occurrence types, e.g., as a distinction between states or activities and developments ("accomplishments"). (6) If we combine the "completeness test" in *Metaphysics* Q.6 with other inferential criteria Aristotle offers elsewhere for *energeia* and *kinesis*, especially in connection with the contrast of *energeia* and *dynamis*, we receive an inferential characterization of *energeia* and *kinesis* as two modes of dynamicity (rather than two types of occurrences). (7) These two modes of dynamicity allow for embedding to generate more complex modes. In particular, in *Metaphysics* K characterizes *kinesis* as "the *energeia* of the potential as such" (1065b16). What we standardly call a development is an occurrence exhibiting this mode of dynamicity. (8) Working with the tools of the Aristotelian doctrine of *dynameis* we can define other modes of dynamicity to characterize other types of occurres, such as non-directed changes and directed non-changes (achievement).

Seibt, J. 2004. "Free Process Theory: Towards a Typology of Processes", Axiomathes 14, 23-57.
Seibt, J. 2015. "Ontological Scope and Linguistic Diversity: Are There Universal Categories?", The Monist 98, 318-343.

Notes on day 2

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