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Please note: In the current version, I do not engage sufficiently with the literature regarding whether bodies, for Descartes, are causally efficacious. I have been principally concerned with trying to clarify the question regarding causal necessity in Descartes, and am only now trying to fold in the efficacy issue. Nor have I been able to address Schmaltz's recent book on *Descartes on Causation* or Chignell's recent article.]

'The Institution of Nature': Mind-Body Interaction, Causal Necessity and *The Passions of the Soul*

[Lisa Shapiro | lshapiro@sfu.ca]

This paper is a draft of a chapter of book I've been working on for some time now (far too long). The argument of the book is premised on a reading of the *Passions of the Soul* which takes as central the Principle of Nature and Habituation[1] (PNH) Descartes first articulates in a.44 of the work. According to this principle, "each volition is joined to some movement of the gland, but that by artifice or habituation one can joined it to others" (11:361), and it is clear from later formulations that Descartes takes the principle to apply equally to the way bodily motions are joined with thoughts. Taking PNH as central just follows Descartes's own claim that it is "the principle on which everything I have written about [the passions] is based" (11: 428). As far as the plan of the book goes, in earlier chapters I defend my overall reading and discuss the implications of this principle for our understanding of Descartes's conception of the union of mind and body. In this chapter I turn to consider its implications for the issues surrounding the causal interaction of mind and body. I approach this topic by offering an interpretation of

[1] The title of a.44 is: "That each volition is naturally joined to some movement of the glad, but that by artifice or habituation one can join it to others" (11:361). I have argued that Descartes means this principle to apply bi-directionally.

Descartes' rather obscure claim that "it is instituted by nature [*institutus est a natura*; *la nature a institué*]" (7:87; 9:69) that a particular bodily state brings about a particular thought in the soul. Following Margaret Wilson, I will refer to the set of such relations as the Natural Institution of body and mind. Clarifying the notion of the Natural Institution has a distinct benefit of shedding light on the causal relation between body and mind.

My discussion proceeds as follows. I begin with some philosophical stage-setting, distinguishing three different issues bearing on Descartes's claims about mind-body interaction and outlining two general features of a satisfactory account of a causal relation: an account of causal power and an account of causal necessity. In Section 2, I note a tension in Descartes's account in the Sixth Meditation of the causal interaction of body and mind. On the one hand, in the proof of the existence of the material world, Descartes seems to ascribe causal power to bodies, and on the other hand, in his appeal to the natural institution of mind and body, he seems to discount that power. I suggest that this tension can be assuaged to some degree by seeing Descartes as dealing with the two distinct features outlined in Section 1. In Section 3, I show that after the *Meditations*, Descartes's attributions of causal efficacy to bodies become less pronounced and argue that there are reasons to discount Descartes's claims that bodies do have causal powers in his later works. In light of these reasons, I follow Steven Nadler in reading Descartes as ultimately holding that a state of the human body is an occasional cause of a thought in the mind. But this leaves open the issue of causal necessity. Whereas in the *Meditations* Descartes does suggest that God institutes the causal relation between body and body, and so explains the necessity of that relation, in the *Passions*, I argue, he grounds the necessity of body-mind causation in the action of the soul. I bring out this difference in Section 4, and go on to argue that we can begin to understand the change in Descartes's position by

considering the centrality of the Principle of Nature and Habituation and distinguishing the institution of nature from a law of nature. In Section 5 I address the question of how the Principle of Nature and Habituation is consistent with the necessity essential to a causal relation, and I argue that the medieval notion of covenantal causality provides a good model for the kind of causal necessity in play between mind and body. My discussion up to this point in the paper will focus on body-mind causation. In Section 6, I consider how much the account I develop generalizes to the other direction of causation – mind-body causation. Finally, in Section 7, I show how this interpretation sheds new light on the positions of both Malebranche and Spinoza, as respondents to Descartes. [Note: Clearly this structure is convoluted. How to streamline organization of argument? Might become clearer once point about causation/necessity/natural laws worked out]

1. Stage Setting

1.1 Three Problems of Mind-Body Interaction

In the Sixth Meditation Descartes claims that particular states of the human body cause particular thoughts in the human mind. The *Meditations* is not the first place Descartes makes this claim, nor is it the last.[2] However, the context of the *Meditations* brings out the puzzling nature of that claim, certainly more than his earlier claims had. There are three basic puzzles about the claim.

First, there is a question about whether Descartes is metaphysically consistent here. His own contemporary readers objected that Descartes's dualist metaphysics precluded the possibility of two really distinct substances causally interacting.[3] A similar form of objection gets

[2] See *Traité de l'homme* (??), *Discourse* (??), *Dioptriques* (??), *Principles* (??), *Passions* (??), correspondence.
[3] Gassendi in Fifth Objections, Elisabeth

a hearing within our own contemporary discussion.[4] Descartes clearly endorses a causal principle which sets a clear constraint on all causal relationships: "there must be at least as much reality in the efficient and total cause as in the effect of that cause" (7:40; 2:28) But as two really distinct substances, the objection goes, mind and body have nothing in common, and so the effect in one cannot be contained the other. The problem is particularly bad for body-mind causation, as the body is taken to be less noble than the mind. Perhaps, the objection continues, the mind could eminently contain the reality of the body, but the body eminently containing mental reality would violate an ontological hierarchy that Descartes does on occasion endorse.[5] This puzzle, however, admits of a relatively straightforward solution. As Eileen O'Neill has shown, Descartes's claims about body-mind and mind-body interaction are metaphysically consistent with his dualism and his commitment to the causal principle. For, as Descartes's own contemporary Simon Foucher argued in his defense, mind and body are both substances. Insofar as they are both substances, they have the same degree of reality qua substances, despite their real distinction. Similarly, modes of mind and modes of body are both modes, and so have the same degree of reality qua modes, despite being modes of distinct substances. This reply holds true for both mind-body causation and body-mind causation.[6] This solution, as I understand it, has now been widely accepted by contemporary commentators, and I will not have any more to say about it here.

The second puzzle concerns whether the two directions of interaction, body-mind causation and mind-body causation, admit of an identical analysis. Contemporary commentators often gloss over this issue, but Marleen Rozemond raises it in the context of situating Descartes's

[4] Radner, et al.
[5] Radner
[6] Jolley

account of body-mind interaction with respect to late Scholastic accounts.[7] As the general issue of interaction comes up both in the Sixth Set of Objections to the *Meditations* and in correspondence with Elisabeth, it concerns mind-body interaction, the question of how the mind can move the body in voluntary action. In this chapter, I will ultimately weigh in on this issue of the directionality. My discussion will focus on body-mind interaction. The account I offer here is not conclusive for resolving whether mind-body causation and body-mind causation works the same way. In Section 3, however, I will argue that taking the language of 'natural institution' seriously, along with other considerations, weighs towards ascribing a certain symmetry to mind-body interaction, in the explanation of the *necessity* of the causal relation. Nonetheless, the account I offer is still consistent with an asymmetry in the accounts of causal power in each direction of mind-body interaction.

Insofar as this issue does come up in contemporary commentary, the focus is on the causal relation between particular thoughts and particular bodily states, that is, particular states of the pineal gland. It is worth noting, however, that sometimes, and in particular in correspondence with Elisabeth, Descartes does admit of mind-body interaction of a more global kind. He concedes to Elisabeth that the general health of the body can affect the mind's capacity to reason, its free will. Equally, he has, as Elisabeth puts it, "the kindness to want to cure my body with my soul" (4:208: Elisabeth to Descartes 24 May 1645); that is, he counsels her that she can cure herself of her persistent low-grade fever, cough, and general ill health, by getting her thoughts in order. My sense is that this global interaction of mind and body can be understood as a sum of instances of particular interactions, but I will not argue this point here,

[7] cite. I explicate Rozemond's argument in more detail in Section ??.

nor will I consider these sorts of remarks in any detail in this chapter. My focus is on the causal connection between particular states of the pineal gland and particular thoughts.

The third puzzle of Descartes's account of body-mind (or mind-body) interaction is quite simply that of the nature of the causal interaction. That Descartes owes us an account of how body and mind interact has been clear at least since Descartes' correspondence with Elisabeth of 1643.[8] For that exchange begins with Elisabeth's asking "how the soul of a human being (it being only a thinking substance) can determine the bodily spirits, in order to bring about voluntary actions" (16 May 1643, 3:661). As she explicates it, her concerns turn on having a model of causation available that involves neither impulsion nor contact. That is, to understand the way mind affects body she wants a model of causation that does not require extension.[9] Her concerns could apply equally to body-mind causation for it is equally unclear how a body could affect an immaterial thing with no surface or matter to work with. Indeed, in his replies Descartes does change the focus from voluntary action to sensation. In 1643, it does not seem that Descartes knows how to answer Elisabeth's question. His appeal to the nature of the *union* of mind and body to explain the nature of their interaction raise more questions than it answers.[10] As Elisabeth points out in the last letter of this period, though he has reaffirmed *that* mind and body interact in virtue of their union, he has not made much headway at all in explaining *how* it is that they do interact.[11] That is, he has not said anything about the nature of causation in play. It

[8] Add ref to Sixth Obj and Rep. Here and later in paragraph

[9] "So I ask you please to tell me how the soul of a human being (it being only a thinking substance) can determine the bodily spirits, in order to bring about voluntary actions. For it seems that all determination of movement happens through the impulsion of the thing moved, by the manner in which it is pushed by that which moves it, or else by the particular qualities and shape of the surface of the latter. Physical contact is required for the first two conditions, extension for the third. You entirely exclude the one [extension] from the notion you have of the soul, and the other [physical contact] appears to me incompatible with an immaterial thing." (3:661; Elisabeth to Descartes 6 May 1643)

[10] Cite

[11] See Elisabeth to Descartes 1 July 1643: "I also find that the senses show me that the soul moves the body, but they teach me nothing (no more than do the understanding and the imagination) of the way in which it does so." (4:2)

is not as if Descartes ever comes right out with a fully developed account of the species of causation at work between mind and body. And so we can still ask: What sort of model of causation is in play?

My discussion bears most directly on this third puzzle, though I will effectively complicate its central question by distinguishing two distinct elements in Descartes's account of causation: the matter of causal efficacy and the matter of causal necessity. To help motivate this distinction consider the philosophical demands of any account of causation, and the particular problems a seventeenth century mechanist like Descartes faced in meeting these demands.

1.2 Causation: the philosophical concept

There are two basic elements to our notion of a cause. First, quite simply, a cause is meant to explain change in the natural world -- that is, either the coming into being of some thing that did not previously exist or an alteration in something that already exists -- by being itself just what effects them. A cause either brings something into existence or alters something that already exists. It typically achieves its effects in virtue of its causal powers. Second, causation involves some kind of necessity. There is a necessity to the cause effecting the changes it does, or to its powers' acting. If a mouse appears upon my waving a wand over a pile of rags, we cannot claim that the waving wand caused the mouse to appear unless it could not have been otherwise that the mouse appears. Philosophically, these two elements of causation have been considered from both a metaphysical and an epistemic perspective. The former aims to explicate the sort of thing that necessarily effects change. The latter focuses on how we can be justified in our claims that one thing is the cause of another – that is, our claims that one thing necessarily brings something else about.

One of Hume's great contributions to the history of philosophy was to argue that the epistemic perspective can be radically divorced from the metaphysical perspective. As Hume frames the issue, our knowledge of the necessary connection between two objects (or events) has no basis in our grasp of an object's powers. Insofar as we need not know about the nature of a thing to empirically establish its constant conjunction with another thing, and so to ground our claims about causal relations, the necessity we take to be proper to a causal relationship has nothing to do with metaphysics and everything to do with our epistemic warrant in establishing that two things stand in constant conjunction. Hume thus focuses on the 'general rules for our reasonings concerning cause and effect' to set out the conditions whereby we can establish a nomological relation between things or events. These nomological relations express the necessity of the relation between cause and effect, their 'necessary connexion'. It is important, however, to note that a concern with nomological relations, or natural laws, does not derive from the epistemic turn Hume makes. It is also central to the focus on the metaphysics of causation in the early modern period, and in particular the seventeenth century. To understand the significance of Descartes's Natural Institution, its place in Descartes's account of mind-body interaction, and so the causal connection between them, we will need to understand a bit about the place laws of nature have in Cartesian physics.

Prior to the early-mid seventeenth century the expression 'law of nature' found its home in moral philosophy. In the so-called natural law tradition, typically associated with Aquinas, a law of nature, in virtue of being God-given, grounded the norms taken to govern human behavior.[12] For it is essential to human nature to be bound by the law of nature, that is, to be

[12] Check Aquinas for language here: *Summa Theologica*, Q94, Prima Secundae

directed towards the good. This direction towards the good constitutes our reason to act: Why do we act in the way we do? Because we are pursuing the good.[13]

Descartes is one of the first, if not the first, to apply 'law of nature' to natural philosophy and physics. In *Principles* II.36-40, he outlines a foundational conservation principle and three fundamental laws of nature [*lex naturae*] "which are the secondary and particular causes of the various motions we see in particular bodies" (Pr.II.27, 8:62; 1:240), which constrain the motions of bodies. These laws are then followed by an array of rules of collision which further specify relations in bodily motions. While I will consider this aspect of Descartes's physics in a little more detail below, it is worth considering here what could have driven the introduction of the notion of a law of nature into this new context, and it seems to me that the natural philosophical sense of a law of nature is tied to the rejection of the Aristotelian model of causation. Aristotle and Aristotelian philosophy distinguished four causal aspects -- final, formal, material and efficient – which worked together to bring about effects. Causal power, the ability to effect change, was located in the efficient cause. However, simply being the efficient cause, having a causal power, was insufficient to explain that power being activated. Something, a stone, say, can potentially have the power to break a window, but having that power potentially is an insufficient explanation of how the stone broke the window. On an Aristotelian account, we need an explanation of how the stone came to be in the position to actually break the window, for its being in motion with the requisite amount of force. And this explanation is derived (in part) from the nature of the stone. The stone, as a heavy body, has as part of its nature a natural tendency to

[13] Descartes's contemporary, Thomas Hobbes, also reserves the law of nature for domain of human action. However, Hobbes can be seen as subtly transforming the concept. For Hobbes, the *right* of nature, of self-preservation, guides human action by nature. But, famously, the operation of this right leads to a state of nature where "nothing can be unjust. The notions of right and wrong, justice and injustice, have there no place." (Leviathan, 13.13) Morality, for Hobbes, is still grounded by the laws of nature, for it is through being bound by these laws that the distinction between right and wrong is drawn. But, as Hobbes is careful to note, a law of nature is 'found out by reason', that is, in Hobbesian terms, through a calculation, rather than simply following directly from the human nature.

reach the ground. Once it is airborne, the rock is determined to move towards the earth in the path it does by its nature, its form, and through that motion then to break the glass window, given its hardness, again part of its form. The workings of the efficient causal powers are explained by the formal and final cause intrinsic to the thing in question. That is, on the Aristotelian account of causation, causal power is located in the efficient cause, but causal necessity, the necessity of the action of that efficient cause in achieving its effect, is explained by the formal and final causes.[14]

Central to the rejection of the Aristotelian model of causation that formed the heart of the new mechanist science was a rejection of formal causes. Descartes was particularly pointed in this regard, branding formal causes as unintelligible, and final causes as proper to the domain of God, and so essentially inaccessible to us finite creatures. [cites] Equally, for Descartes, all causation was to be understood as a matter of the workings of an efficient causal chain. This new model of causation raised two key problems. With rejection of formal causation, at least in the Aristotelian sense, how is a mechanist like Descartes to account for the necessity of causal relations? What is to explain the regularity of efficient causes working as they do? I want to suggest that the laws of nature are meant to answer precisely this question. Laws of nature, transposed into the physical domain are meant to account for causal necessity.

The second problem concerns how to understand efficient causation severed from the constellation of the four Aristotelian causes. Is efficient causation best understood as a matter of causal powers? Much discussion of Descartes's account of causation has focused on this question, and commentators of disagreed about whether Descartes holds that bodies have

[14] Secondary sources?

intrinsic causal efficacy or adopts some version of occasionalism.[15] Interestingly, these discussions for the most part avoid the issue of causal necessity, but nonetheless no matter which interpretation holds sway, an account of the necessity of the causal relationship is owed. [I want to sever the question of causal power from causal necessity more clearly than I have done in the paper.]

2. The Separation of Causal Power and Causal Necessity in the Sixth Meditation

I will be arguing that with the notion of the institution of nature Descartes is offering an account of the causal necessity proper to the interaction of mind and body, and account distinct from that of the causal efficacy in play. I have suggested that the separation of these two issues makes sense given not only our concept of causation but also the intellectual historical context, in which the Aristotelian account of causation was rejected. However, Descartes himself does not frame his project in these terms, and so it is not as if this separation presents itself on the surface of his texts. Nonetheless, we can find support for this interpretation both in the Sixth Meditation

On the face of it, in the Sixth Meditation there is a tension in Descartes's appeals to the way bodies cause sensation in us. On the one hand, the proof Descartes offers for existence of the material world relies on a notion of efficient causation. The proof establishes that bodies must exist insofar as we have a 'great inclination' to think that they cause us to have sensations, and so turns on how he takes sensations to be caused. As Descartes frames the question, our sensations are passions in us, the result of a "passive faculty of sensory perception, that is a faculty for receiving and recognizing the ideas of sensible objects" (7:79, 2:55). Thus, he asserts, there must also be an "an active faculty in me or in something else, which produced or

[15] Hatfield and Garber independently maintain that Descartes is an occasionalist, whereas Schmaltz and Della Rocca argue that Descartes does hold that bodies are intrinsically causally efficacious. (Does Tad still hold this?)

brought about these ideas" (*Ibid*.). Given this framework, Descartes goes on to eliminate all possible causes of our sensations other than bodies. On the most straightforward reading of this proof, Descartes is claiming that bodies themselves act to bring about sensations, and that they are able to do so is due to a power intrinsic to them. For, if the material world is the cause of our sensations, material things must have an 'active faculty' whereby they produce ideas in us.

On the other hand, but a few pages later, Descartes is appealing to its being 'instituted by nature' that a certain motion of pineal gland, effected through the impact of the world on the machine of our body, leads to a certain thought in the soul. While Descartes still uses causal language – a bodily motion does 'produce' a sensation in the mind – it no longer seems that bodies require an active faculty to cause sensations. Moreover, Descartes adopts a linguistic metaphor to describe the relation between body and mind: "every time this part of the brain [the pineal gland] is in a given state, it presents the same signals to the mind" (7:86). Moreover, the interaction between mind and body does not presuppose a metaphysically necessary connection between cause and effect. Descartes is quite explicit that things could have been instituted differently: "It is true that God could have made the nature of man such that this particular motion in the brain indicated something else to the mind" (7: 86 (see also 7:88)). It can seem that the linguistic metaphor, along with the denial of a metaphysically necessary relation between body and mind, implies the relation is not so much a proper causal relation as simply an association.[16]

However, holding that the Natural Institution is merely an association suggests that bodies are not 'active' in some way. And without bodily activity of some sort, the proof of the

[16] Louis Loeb defends this interpretation in Loeb (??). Margaret Wilson has a degree of sympathy with it, though her position is more fine grained. [How does the recent Chignell paper fit into this?]

existence of the material world collapses. This is no small problem for Descartes's final answer to the skepticism of the First Meditation.

Moreover, if we, quite reasonably, take the active power attributed to bodies to be a causal efficacy, it can seem that Descartes moves quite abruptly from affirming bodily causal efficacy to denying it. It is no wonder that Descartes's position becomes an interpretive issue. However, one might well suspect that there might be another way of reading Descartes whereby he would not be prima facie inconsistent. I suggest that the Sixth Meditation discussion coheres (or at least coheres a bit better) if we see the issues of causal power and causal necessity as separate ones. The proof for the existence of the material world does rely on bodies having some kind of causal efficacy to produce some thought or another in us. But that bodies are able to do this does not yet explain why they produce the thoughts they do in us. With the rejection of the notion of substantial forms, and with that, the rejection of sensible species, there is no reason why a body affecting us, and indeed our body, affected in a particular way, should produce one thought rather than other. That is, we still need an explanation of the causal necessity between particular bodily states and particular thoughts. The discussion in which the institution of nature figures is designed to provide precisely this explanation. It is the institution of nature that explains why we have one thought – a pain in our foot – rather than another, when the pineal gland is in a given state. It is instituted by nature to be that way because it is "the best system that could be devised … [that which is] most especially and most frequently conducive to the preservation of the healthy man" (7:87). That the Natural Institution is not metaphysically necessary is not a problem here. Rather, that it is not strengthens the demand for an account of the kind of causal necessity in play here. If there is not a metaphysically necessary connection between body and mind, and yet there is still a causal interaction between them, what sort of

necessary relation exists that can support that causal relation interaction? Descartes's answer is that the necessity between bodily states and mental states is just the institution of nature.

3. Causal Efficacy and Causal Necessity in other works

I have suggested a reading of the Sixth Meditation that separates two issues: that of the causal efficacy, or power, of bodies and that of the necessity proper to causal relationships, and in particular the causal relationship between body and mind. I now want to do two things. First, I want to consider whether this reading gains support from other texts. Second, I want to wade into the debate concerning whether bodies are causally efficacious for Descartes.

The language of 'institution of nature' with regard to body-mind interaction is not new to the *Meditations*. It is first suggested as early as the Traité de l'homme where Descartes claims that in uniting a rational soul to the machine like the human body God will make "its [the soul's] nature such that the soul will have different sensations corresponding to the different ways in which the entrances to the pores in the internal surface of the brain are opened by means of the nerves" (11:143; 1:102). The notion of an *institution* of nature is explicitly invoked in the Dioptrics. Descartes writes:

> But instead it is the movements composing this picture which, acting directly upon our soul in so far as it is united our body, are instituted by nature [*institué de la nature*] to make it have such sensations. (6:130; (my translation deviates slightly from 1:167). (See also, 6:134-5, 1:169.)

Descartes' language here is expressly causal – bodily motions 'make' the soul have sensations, or 'produce' sensations in us – just as it is in the *Meditations*, and though Descartes does not appeal to any active faculty of bodies, there is little textual basis for thinking that he denies any causal efficacy to bodies. Moreover, it is clear that whether

bodies have causal power or not is not relevant here to the explanation of the causal necessity of bodily motions bringing about the thoughts they do. Rather, a bodily motion brings about the sensation it does because of the institution of nature.

After the *Meditations*, Descartes retains his commitment to talk of an institution of nature between mind and body, even up through the *Passions*, where much is made of bodily motions being naturally instituted to bring about the passions, or states of mind, they do.[17] At the same time, Descartes seems to scale down his commitment to ascribing bodies an active faculty. To be sure, even in the *Passions* Descartes does talk of bodily motions producing a thought in the soul, but the language is non-technical. Whereas it may not be tempting to treat similar language in the early works as loose talk, the *Passions* post-dates the *Principles* where Descartes does seem to step back from his talk of the active faculties of bodies so central in the *Meditations*.

In the version of the proof of the material world in *Principles of Philosophy*, it is notable that Descartes's appeal to any activity of bodies is quite weak. The argument in *Principles* II.1 turns simply on our sensations depending not on any active power in us but rather on the thing affecting our senses [*a re illae quae sensus nostros afficit*]. To establish their existence, we need only presume that bodies affect us somehow, and not that they do so through some power intrinsic in them. Equally, as we have seen in his discussions of the institution of nature elsewhere do not depend on bodies having any active powers. Finally, in the physics developed in the *Principles* it seems that Descartes denies that bodies possess intrinsic causal powers.[18] And if bodies do not affect other

[17] cites
[18] literature

bodies in virtue of some intrinsic active power, it is hard to see how they might affect minds through such a power.

But if Descartes's considered view is that bodies do not have any active faculty, or intrinsic causal efficacy, how does he think that the mind is affected by bodies? Moreover, how is the mind affected by bodies with any consistency? What grounds the necessity through which bodily motions affect the mind to have particular thoughts? We might see these questions as a gloss on Elisabeth's original question to Descartes: how can a body can *cause* a sensation in the mind without transferring anything to it, or otherwise coming in contact with it (since physical contact is "incompatible with a material thing"[19]).

3.2 Occasional Causation and the Shifting Ground of Causal Necessity

Steven Nadler has argued that Descartes does have a notion of causation available to him here: that of occasional causation. As Nadler spells it out, one thing, A, is the occasional cause of an effect, *e*, just in case A occasions another thing, B, to bring about *e* by its own efficient causal powers.[20] So in the case of sensations, a bodily motion would be the occasional cause of a sensation just in case that motion occasions some other entity to bring about a sensation in the mind. Thus, for a bodily motion to be an occasional cause of a sensation there need be no transfer of motion to mind, nor need a body itself have the active power to bring about a thought. Rather a bodily motion need only elicit or incite something else to bring about a thought.

[19] Elisabeth to Descartes 16 May 1643, 3:661.

[20] Nadler defines occasional causation as follows: "the entire process whereby one thing, A, occasions or elicits another thing, B, to cause *e*. Even though it is B that A occasions or incites to engage in the activity of efficient causation in producing *e*, the relation of occasional causation links A not just to B, but also (and especially) to the effect, *e*, produced by B" (Nadler, 1994, p.39).

Nadler goes on to argue, I think rightly, that for Descartes, this other thing that effects a sensation is the mind itself. So bodily motions occasion the mind to bring about a thought in itself. This reading seems to reflect quite nicely the remarks in L'Homme and the Dioptrics. L'Homme emphasizes that it is the *soul's* nature to have the ideas it does upon the occasion of certain motions in the brain. And this same idea is reiterated in the Dioptrics' clarification of the institution of nature. There Descartes writes:

> regarding light and colour ..., we must suppose *our soul to be of such a nature* that what makes it have the sensation of light is the force of the movements taking place in the regions of the brain where the optic nerve-fibers originate, and what makes it have the sensation of colour is the manner of these movements. (4:130; 1:167; emphasis added.)

Moreover, as Nadler does go on to show, Descartes avails himself of this notion in some of his later writings. The 1647 French translation of the *Principles* II.1 Descartes moves from the claim that bodies affect the mind in having sensations, in original Latin, to the view that "it seems to us that the ideas we have of it [a body] forms itself in us on the occasion of bodies from without" (9-2:64).[21] Similarly, in the *Comment on a Certain Broadsheet*, Descartes claims that we judge that an object is before us "not because these things transmit an idea to our mind through the sense organs, but because they transmit something which, at exactly that moment, gives the mind occasion to form these ideas by means of the faculty innate to it"(8-2:359; 1:304). It thus seems that Descartes moves first from taking bodies to have an active power to bring about thoughts in the mind in the *Meditations* to taking bodies to have the capacity to affect the mind in the original

[21] Nadler owes the remarking of this change to Garber (199?, p.22) though his aim is to take issue with Garber's assigning Descartes here a notion of occasional*ist* causation.

Latin version of the *Principles*. In the French translation of the *Principles* he further refines his view, understanding the capacity bodies have to affect the mind to be a species of occasional causation.

There are two additional elements to note about the model of occasional causation, both remarked by Nadler, before moving forward. First, as should be clear from the fact that Descartes assigns the soul causal efficacy in bringing about its sensations, occasional causation is not yet occasional*ist* causation. On the occasionalist model, God is the only efficient cause, and He is occasioned to act in bringing an idea to mind by occurrent states of affairs in virtue of the laws He has prescribed for himself.[22] And second, since God does not yet figure as an efficient cause of our thoughts, we can ask what grounds this occasional causal relation between body and mind: Why should a bodily motion occasion the mind to have the thought that it does? The answer cannot lie in the nature of the body or its motion, for, after all, that same motion might well have occasioned a different thought. Indeed, the fact that this model does not rely on powers of bodies is what makes it a distinctive model of causation. That is, we are back to the issue of the necessity of causal relation between body and mind. It is clear from the *Meditations* and Dioptrics that the institution of nature is meant to account for the necessity of the causal relation between body and mind, and so is an integral part of an account of the kind of causation in play. A particular bodily motion occasions the mind to have the particular thought it does because it is instituted by nature that it do so. The question thus becomes: How does the Natural Institution account for necessity of the causal interaction of body and mind?

[22] I will return to the question of what might drive the move from occasional causation to occasionalist causation at the end of this paper.

As Nadler notes, according to the *Meditations* and L'Homme it seems to be that it is God's will.[23] In L'Homme, it is God that creates the rational soul and joins it with the body. And in the Sixth Meditation, Descartes grounds the institution of nature, and so the causal relationship between mind and body, by appeal to God's will to create the best system possible to facilitate the preservation of a healthy human being: God just makes us the way we are.

It is interesting, however, that Nadler has to appeal to Descartes' earlier works – L'Homme and the *Meditations* -- to answer this question as it arises in the later ones – the French translation of the *Principles* and the *Comment on a Certain Broadsheet*. In these later works Descartes no longer offers any explanation of why bodies occasion the thoughts they do, or why the Natural Institution is as it is, let alone appeal to God to provide that explanation. In the account he provides of sensation towards the end of *Principles* IV, Descartes outlines in no small detail just how the motion of certain nerves leads to certain thoughts in the soul, through the mediation of the gland. But here he offers no explanation of why those motions cause the thoughts they do beyond its being the "nature of our mind" that they do so.[24] And even in the *Comment on a Certain Broadsheet* there is no appeal to God's will to support the claim that bodies "transmit something which …gives the mind occasion to form these ideas by means of the faculty innate to it (8B:359, 1:304).[25] Indeed, he does not even offer any account of why the mind should call forth one of these innate ideas rather than another on the occasion of a particular corporeal motion. In the *Meditations* he was willing to offer just such an explanation,

[23] See 11:143; 1,102 and 7:87-88; 2:60. Nadler puts the point as follows: "What *is* clear is that the ground of the nomological correlation between A and *e* does not lie in *in rerum natura* (in particular, in the nature of the cause, A, and the effect, *e*). That iis, the relationship is not grounded in some ontically real power in A….The historical tendency with respect to occasional causation, as my discussion of Descartes (and others) will show) is to locate the ground in God's will." (Nadler, 1994, p.43).

[24] See in particular Pr.IV 197, 198 (8A:320, 322).

[25] What is the import of Descartes' continued claims that bodies 'transmit' something? This not only comes up here but also in the context of the law of impact in the *Principles*

one in terms of God's will, and now he is not. Now it might well be that this omission is of little import. Perhaps Descartes takes the *Meditations* position as well-established enough that it simply goes without saying. But given Elisabeth's persistent questioning and Descartes' inadequate answers, I suspect there is something more going on. I suspect that Descartes is rethinking his account somewhat and, in typical fashion, is writing only that of which he is confident, omitting elements about which he is confused, crucial though they may be.

I suspect this because Descartes' story does not end with the publications of 1647. Indeed, in 1647 he is just completing a second draft (the drafting seems to go in three stages) of the *Passions of the Soul*.[26] In that work, Descartes is principally concerned with the causal relation between body and mind, and a central part of that relation is the causal interaction between them. The passions, are, after all, "perceptions, excitations or sensations of the soul which are referred to it in particular and which are caused, maintained and strengthened by some movement of the spirits" (a.27, 11: 349).[27] Yet nowhere in this work does Descartes appeal to God's will to explain why it is that particular bodily motions cause the thoughts, the passions, they do. Given the account of the *Meditations* this is a striking omission, though the fact that Descartes does not appeal to God in this regard in his subsequent writings might make it less so. It does, however, move us to ask: what *does* establish the Natural Institution, or the causal relation between body and mind in the *Passions*? And why does Descartes no longer appeal to God in this regard?

[26] Descartes completes an early draft of this treatise in early 1646. His letter to Elisabeth of May 1646 (4:407, 3:285) indicates he has received some initial comments from her on this draft (see her letter of ????). In November 1647 he sends Chanut what must be a revised draft of the work (see Descartes' letter of 20 November 1647 (5:87, 3:327). But in April 1649 he writes to Clerselier that he is still revising it, and indeed plans to "increase its length by a third" (23 April 1649, 5:354,3:376). It is very much a work in progress in 1647.

[27] I defend this claim in more detail in my "The Structure of the *Passions of the Soul*."

According to the *Passions*, I want to argue, it is the soul and not God that establishes or institutes the causal relations between bodily states and mental states. I further want to show that, even though the claim is a peculiar one, Descartes has good grounds for making this claim. To do so I will compare the notions of an institution of nature and a law of nature. Natural laws, after all, play a similar role in explaining how bodies act on other bodies in Descartes' developed physics as the Natural Institution plays in body-mind causation. But, I will argue that for Descartes there is an important difference between a law and an institution of nature. In getting clear on this distinction, and in particular the accounts of causal necessity available in light of it, we can come to see the development of Descartes' account of body-mind causation.

4. The Institution of Nature and the *Passions of the Soul*

To see that Descartes *is* offering an explanation of the Natural Institution in the *Passions*, consider the structure of the work. In its second part, after he has in the first part laid out "the passions in general and incidentally the entire nature of man," Descartes turns his attention to the passions in the specific sense, and in particular to the six primitive passions: wonder, love, hate, joy, sadness and desire. He treats wonder independently of the other five, and I will follow him here without pursuing the question of how wonder deserves such special treatment. Descartes begins his analysis of these primitive passions by specifying their content, that is, the particular way in which they represent how things are important to us. He then presents their physiological symptoms (aa. 96-106), and infers from them the "movements of the blood and spirits … that cause the five preceding passions" (PS a. 96, 11: 401). We can understand him here to be straightforwardly continuing where he left off in the *Principles*, continuing his detailing of the particulars of the Natural Institution. However, in aa. 107-111, Descartes aims to offer an account of why these passions are caused by these movements. That is, he sets out to explain,

what he, in a.136, identifies as "the principle on which everything I have written about them [the passions] is based," (11:428), that "there is such a connection between our soul and our body that when we have once joined some action with some thought, one of the two is never present to us afterwards without the other also being present" (PS a. 107, 11:407). He sets out to explain the Natural Institution.

Before considering this explanation, it is important to note that the principle as it is articulated here is slightly but importantly modified from its earlier formulation in Part I of the *Passions*: "although each movement of the gland seems to have joined by nature to each of our thoughts from the beginning of our life, one can nevertheless join them to others by habituation" (PS a.50, 11:368; see also a.44). I will return to this point shortly.

So how does Descartes explain the Natural Institution in those articles of the *Passions*? He imagines a time when our soul "first began to be joined to our body" and considers how the soul came to feel its first passions. How we come to have these first feelings upon being in particular bodily states then serves to explain why those particular bodily motions thereafter bring about the passions they do. Descartes' discussion of love is the most telling. There he claims that our first feelings of love "must have been due to the blood, or other juice entering the heart, sometimes being a more suitable nourishment than the usual for maintaining the heat in it which is the principle of life." And he continues: "That causes the soul to *join* this nourishment *to itself by will* [*de volonté*], that is, to love it..." (a. 107, 10:407, emphasis added). Thus, the soul only feels love insofar as it has *joined itself* , or rather its thoughts, to the motions resulting from this particularly suitable nourishment.

This natural history is somewhat peculiar (or perhaps more than somewhat peculiar) so let me say a bit more about it. According to these articles in the *Passions*, it seems that the soul,

when it is first joined with the body, has some sort of awareness of the condition of body, perhaps not unlike the awareness a sailor has of his ship.[28] The soul is aware of the blood's being particularly nourishing, or in the case of hatred, non-nourishing, of the body to which it finds itself joined. The body is able to affect the soul to this degree. But the soul's awareness of the condition of the body does not yet constitute the Natural Institution. What still demands explanation is the necessity with which that bodily state will engender the same thought in the soul time and again. To effect a necessary causal connection between bodily state and thought, the soul must take up an attitude of concern towards the state of the body; it must care what kind of nutriment is in the blood; it must care what condition the body is in. Presumably, the soul is of such a nature that it has a set of attitudes of concern available to it. These attitudes correspond to our primitive passions, and I would suggest are akin to innate ideas.[29] In taking up an attitude towards a bodily state, the soul feels the passion aligned with it; the body occasions it to feel the passion it does. However, in doing so it also establishes a necessary relation between itself and the body whereby it will, on the occasion of a similar bodily state, feel a similar passion. So in the case of love, the soul finds itself affected by a well-nourished body; it finds that bodily condition suitable; it feels love. In taking up this attitude, in feeling love, it establishes an necessary connection between that bodily state and that feeling. With the instituting this connection, a full-fledged causal connection between bodily state and passion is realized.

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[28] Descartes invokes this analogy twice though his meaning is not entirely clear. In the *Discourse* he writes: "…it is not sufficient for it to be lodged in the human body like a helmsman in his ship, except perhaps to move its limbs, but that it must be more closely joined and united with the body in order to have, besides this power of movement, feelings and appetites like ours and so constitute a real man" (6:59, 1:141). And in the Meditations he reiterates this thought: "Nature also teaches me … that I am not merely present in my body as a sailor is present in a ship, but that I am very closely joined and, as it were, intermingled with it, so that I and the body form a unit" (7:81, 2:56). It is hard to know whether Descartes thinks that the sailor-ship relation is necessary but not sufficient, or that it is a wholly inappropriate analogy. The *Discourse* does suggest the former line, but the *Meditations* is inconclusive.

[29] This instituting of an association is an institution of *nature* no doubt for just the reason Descartes gives in the *Principles* and the *Comment on a Certain Broadsheet*: the soul has a nature, an array of innate ideas, such that it can effect these associations.

Something similar is true for the other passions, and in general in feeling its first passions, the soul effects the necessity essential to the Natural Institution.[30]

While there is little direct support for this reading outside this passage, I do think that Descartes' language in his formulation of his basic principle is telling. For he quite conspicuously assigns us agency in joining bodily states to thoughts. He writes in a.107: "when *we* have once joined some bodily action and some thought, one is never present to us afterwards without the other also being present" and he repeats this precise phrasing in a.136. Given how he had heretofore explained the Natural Institution in the *Meditations*, his putting the point in this way is striking. Again, I admit that this idea that the soul would institute body-mind associations is a peculiar one, and in many ways invites more questions than it answers, but I do hope to make it seem a bit more plausible in what follows.[31]

Let me mark where I am in my argument. I am claiming while Descartes up to through the *Meditations* suggests that bodies do have causal efficacy, by the time he writes the *Principles* he has divested bodies of this active faculty. Rather, at least with regard to case of mind and body, he maintains that body and mind can interact through occasional causation. Moreover, while in the *Meditations* it is clear that the ground of the necessity of that causal relation lies in God's will, I am arguing that in the *Passions*, it is rather the *soul's* will that institutes the necessity proper to the causal relation. I am thus maintaining that the view of the *Passions* is a development in Descartes' thought. So I now want to consider why Descartes might have altered

[30] I provide a slightly more developed account of this uniting in my "Descartes' *Passions of the Soul* and the Union of Mind and Body".

[31] It is worth noting that the structure of the account proposed here is similar to that of full-fledged occasionalism. If we take Malebranche as definitive of this position, God creates an occasional causal relation by prescribing (divine) laws for himself. In this case, an occasional causal relation is established by the soul's prescribing (human) laws for itself to follow in feeling its passions.

his view in the way that I am claiming he does in the *Passions*. What is the philosophical motivation behind such a move?

4.1 Laws of Nature versus the Institution of Nature

My answer to this question begins by comparing Descartes' notions of a natural institution and a natural law. Commentators have often likened the Natural Institution to laws of nature, and on the face of it, it plays a role in the economy of a Cartesian human being very similar to that natural laws play in Descartes' physics. For just as the motions of bodies can be thought to cause ideas in the mind in virtue of the Natural Institution, so too can bodies in motion be thought to cause motions in other bodies in virtue of the laws of nature.

A brief sketch of Cartesian physics helps to bring out the plausibility of this analogy. Descartes' rejection of the Aristotelian doctrine of substantial forms is quite well-known, as is the explanatory problem he faces, in light of this rejection: that of explaining the motions of bodies, and in particular, in explaining how one moving body can cause motion in another body.[32] While Descartes does in the end want to deny that bodies have in and of themselves causal efficacy, he seems willing to admit bodies as occasional causes of the motions of other bodies. In short, God is the efficient cause of motions in bodies insofar as he is continually recreating (or preserving) the material world, a world comprised of bodies in motion. But God's creation and recreation (or preserving) of bodies in motion conforms to a set of laws of nature, a law of conservation, as well as three laws of motion, which include a law of inertia, a law of rectilinear motion, and a law of impact. Bodies can then be said to occasionally cause motions in themselves and in other bodies in so far as they embody the initial conditions, which as a result

[32] Substantial forms, though they might have unfortunately implied the contradiction that non-thinking bodies had some sort of intelligence, did have the advantage of identifying a locus of power in bodies that could serve as an explanation of causal efficacy.

of the laws of nature, lead to God's creating the world with the motions constituting the effect.[33] From this very cursory sketch, it is straightforward to see the analogy between the laws of nature and the Natural Institution. The laws of nature set out the rules whereby a bodily state – a certain quantity of motion – occasions another bodily state (a certain quantity of motion in another body) necessarily; and equally, the Natural Institution sets out the rules whereby a bodily state occasions a thought in the soul necessarily.

Just as we can ask what grounds the Natural Institution for Descartes, so too can we ask what grounds the laws of nature for him. While the details are murky again, we need only consider the general shape of Descartes' account of the laws of nature. For the purposes of this paper, I am taking the position presented in the *Principles* as definitive. And here the general shape is clear. As Daniel Garber has noted, for Descartes, the laws of nature "are not formulated by God and then imposed on nature. Rather they follow directly out of the way the God who exists with the nature he has causes motion in the world he first created and now sustains."[34] In particular, for Descartes, the law of conservation, as well as the three laws of motion, derive critically from God's immutability. We can take the law of conservation as an example. There, we are to assume that God "in the beginning <in his omnipotence> … created matter along with its motion and rest." But the law of conservation also maintains that "now merely by his regular concurrence, he preserves the same amount of motion and rest in the material universe as he put there in the beginning" (8A:61; 1:240). Surely if God is omnipotent, he could simply add and subtract motion in his creation at will. What grounds the law of conservation is the further claim that "God's perfection involves not only his being immutable in himself, but also his operating in

[33] Garber, Hatfield, relevant supporting texts
[34] Garber (1992), 274. For a very helpful discussion of the murky details, along with an attempt to clarify them, see pp.274-305.

a manner that is always utterly constant and immutable"(Ibid.). God's immutability is crucial in establishing the law of conservation.

The same is true for the three laws of motion. As the discussion of the first law, the law of inertia, begins in *Principles* II.37: "From God's immutability we can also know certain rules or laws of nature, which are the secondary and particular causes of the various motions we see in particular bodies" (8A:62, 1, 240). This claim is reiterated in Descartes' discussions of the second law, the law of rectilinear motion, and the third law, the law of impact.[35]

The details of these demonstrations are not so important for my point here. What is important is simply that the laws follow from God's immutability. For that they do tells us something important about Descartes' conception of a law of nature. In following from something immutable, these laws of nature too are immutable and unchanging. I want to suggest that for Descartes, this immutability is an essential to being a *law* of nature. Laws are, at the very least, *naturally* necessary. That is, though they might not be metaphysically necessary -- it might be the case that God could have created things otherwise, and that if he had the laws of nature might well have been different than they are -- given that God does create things as he does, the laws *must* be what they are and can be no other way.[36]

In the *Meditations*, Descartes seems to think of the Natural Institution in a similar way. There he claims that a "a given motion in the brain must *always* produce the same sensation in the mind" (7:88, 2:61, emphasis added), and, with respect to how we feel a pain in our foot, that whenever the same motion occurs "in the brain as occurs when the foot is hurt, so it will *necessarily* come about that the mind feels the same sensation of pain" (7:87, 2:60, emphasis

[35] See Pr II.39 and 42. (8A:63,66; 1:242,243). The details of how these laws are to follow from God's immutability are from clear, especially those proper to the third law, the law of impact.
[36] Note that I am not claiming here that God wills the laws and then applies them to bodies. Rather, God is creating the world as he does, and in so far as he makes the creative choices he makes (and they are choices, He could have done otherwise), he commits himself to bodies moving in accordance with the laws they follow.

added). Here it does sees that Descartes treats the Natural Institution as a set of laws of human nature, and there seems to be little difference then between an *institution* of nature and a *law* of nature. Thus, it makes as good sense for Descartes to claim that the Natural Institution derives from God's will as it does for him to claim that the laws of motion do.

However, in the *Passions* things seem somewhat different. According to the account of the regulation of the passions Descartes presents there, the particulars of the Natural Institution are changeable. As I noted earlier, in his first statement of the basic principle of that work, Descartes maintains that, "though each movement of the gland seems to have been joined by nature to each of our thoughts from the beginning of our life, one can nevertheless join them to others by habituation" (a.50, 11:368).[37] Though Descartes thinks that much of the work of regulating the passions involves our correcting the judgments of the importance of things to us aligned with our passions, and thereby coming to be disposed to act differently as a result of what we are feeling, in a.211 he suggests that ideally we would "correct our constitutional deficiencies, in applying ourselves to separate within us the movements of the blood and spirits from the thoughts to which they are usually joined"(11:486). That is, he thinks that we can and would do best, in the case of passions that are excessive or otherwise misrepresent, to sever the relation between bodily motion and thought and, presumably, to institute another.[38] And one can see why he might think this remedy is to be recommended. Through our passions we immediately perceive the ways in which things are important to us, but we can be misguided or just plain wrong in these evaluations. Certainly, we can correct for these evaluative errors through judgment. Just as we can correct ourselves in thinking the stick in water is bent -- it only appears so because of the refraction of light -- so too we can correct ourselves from thinking

[37] See also a.44 cited above.
[38] I present this account in greater detail in my "Descartes' *Passions of the Soul* and the Union of Mind and Body".

house cats are fearsome – they only appear so because we had that encounter with our neighbor's vicious beast. But it would be somewhat awkward if every time we came across a cat, we had to run through this line of reasoning, even if that reasoning became a matter of habit. It would be much better if we just got over our fear of cats, and came to see them as the friendly creatures they are. That is, it would be much better if we just immediately perceived cats as friendly rather than fearsome. And indeed it seems that we are capable of just such a regulation of our passions. Our passionate evaluations of things do change. While it is certainly not the case that Descartes would have us reinstituting the relations between bodily motion and thought at every turn, or even with any great frequency, it does seem that he takes the Natural Institution to be mutable, and that this is just common sense.

That Descartes does take the Natural Institution to be mutable or changeable helps to explain his shift away from grounding that Natural Institution in God's will, as he does in the *Meditations*. For as we have just seen in our brief foray into Descartes' physics, the immutability of God, and so, of God's will for him, entails that there are regularities intrinsic to what he wills, and moreover, that those regularities are themselves immutable. So, while it might well be consistent with God's nature and his creation of human beings for there to be regularities which effect a causal relationship between body and mind, it is hardly for consistent for those regularities to be subject to change. Insofar as Descartes wants his account of the regulation of the passions to capture the common-sensical idea that we can and do change how we immediately feel about things, he finds himself maintaining that the Natural Institution is changeable. And insofar as he takes the Natural Institution to be changeable, it cannot follow from God's immutable will.

Thus, insofar as the causal connections between bodily states and mental states *are* changeable, for Descartes they cannot be causal *laws*. The *Principles* tells us that a law of nature is at the very least naturally necessary. According to the *Passions*, the Natural Institution is not even that, and so there does seem to be something importantly different between an institution and a law.

5. Necessity and the Institution of Nature

However, that there is this difference presents us (and Descartes, on this interpretation) with a problem. For there is now a pressing question of how the Natural Institution, as I am understanding it, can constitute a *causal* relationship. According to the story I have been telling, Descartes develops this account in order to accommodate our capacity to *change* how we feel about things. But a causal relation is essentially a *necessary* relation. One can, of course, differ about what sort of necessity is required for a causal relationship. But, while it may be that one can make sense of a causal relation that is not metaphysically necessary, it does seem that minimally a causal relationship is naturally necessary. The account of the Natural Institution I have been developing does not seem to satisfy this requirement.

In light of this problem, we can either maintain that Descartes' efforts to define the causal relation between body and mind fail, or revert to the reading which would have Descartes torn between a causal account, as found in his straightforward causal language, on the one hand, and an associationist account, taken to be found in the language of natural institution, on the other. But part of my point earlier involved arguing that the Natural Institution is a causal relation – albeit one of occasional causation – for Descartes, so I am not ready to throw in the towel quite yet.

5.1 Covenantal Causality

There *is* a notion of causation to which we can appeal to maintain the Natural Institution is a causal relation: that which William Courtenay has referred to as covenantal causation. While this notion was in theory available to Descartes, I have no good evidence that he was aware of it in actuality, so much of its explanatory value is speculative. However, some commentators have maintained that covenantal causation figures in the development of occasionalism, so the speculation is not wholly unwarranted. Courtenay finds this notion of covenantal causation in discussion of the causal efficacy of the sacraments by philosophers in the Scotist and Ockhamist traditions, in particular Pierre d'Ailly, as well as in the economic theory developed by the likes of Bonaventure.[39]

According to D'Ailly, the sacraments bring about salvation not in virtue of anything intrinsic to the sacraments in themselves, nor in virtue of divine intervention at the instant of the performance of the sacraments. Rather, they bring about salvation in virtue of a covenant between God and the Church wherein God wills, or ordains, that performance of the sacraments will contribute to His bringing about the salvation of the pious, independently of the nature of the sacraments themselves. The Church, of course, agrees with God's will here, and so enters into a covenant with God. What is crucial to the sacraments' causal efficacy is that there is an agreement between the two disparate parties such that things will work as they do. The economic case is perhaps more compelling. Bonaventure explains that a piece of lead can come to have causal efficacy not because of either the intrinsic value of the lead, nor common convention, but rather because the king has entered into a more or less binding agreement with his people such that he agrees to back the lead as currency, say, with his silver. In doing so, he ascribes value to the lead coin and thereby institutes it to have the buying power it does. What is

[39] See Courtenay, "The King and the Leaden Coin" and "Covenant and Causality in Pierre d'Ailly"

particularly interesting for our purposes here is that there is nothing in this economic theory that prevents the king from changing his assignment of value. The lead coins can come to have more or less value depending on how much support the king is willing to lend it. He might, for instance, choose to adopt a gold rather than a silver standard. All that is required here is that the king, in instituting the value of the currency, not be acting in a wholly arbitrary way. The coin will be causally efficacious so long as a valuation has been instituted even if that value can be rationally renegotiated.

It seems to me that these accounts are similar enough to the account of body-mind causation I have been arguing develops in Descartes' thought that they might well have figured in that development. And interestingly, the problem that covenantal causation is meant to solve is not unlike that faced by Descartes in his consideration of the passions and arguably of sensation as well: that of how something of no relevant intrinsic value comes to have value or causal efficacy. In the case of the sacraments, one has to explain how something like eating a basically nutritionless wafer can come to have great value, in bringing about salvation. Similarly, medieval economists face the problem of explaining how a more or less worthless lump of lead comes to have value and so be able to cause the exchange of goods. In a similar way, Descartes is faced with the problem of accounting for how something of no intrinsic value, a body whose workings are explained mechanistically, comes to have value to the soul, and thereby to cause thoughts, passions at the very least, in the soul. But even if these medieval accounts did not figure in Descartes' thought, they, and especially the economic case, do give us a way of making sense of how the Natural Institution between body and mind, despite its being importantly different from a natural law, can be reasonably taken to be a causal relation.

5.2 The Necessity of Covenantal Causality

[NEED TO provide account here: perhaps a contrast between this sort of necessity and Aristotelian hypothetical necessity?]

Thus far, I have argued that Descartes comes to clarify the nature of the causal relation between body and mind over the course of his works. Though in the *Meditations* he asserts that a body's causing sensations is due to some active power in it, he later distances himself from this position and comes to see body-mind interaction as a species of occasional causation. The issue of bodily causal efficacy is distinct from that of ground of the necessity of the causal relationship, or the institution of nature. While in the *Meditations* Descartes does seem to ground Natural Institution in God's will, that claim disappears from his writings. By the time he writes the *Passions* he has come to think of the Natural Institution as grounded in the soul's will, insofar as it ascribes value to bodily states. I have argued that this shift in his view is due to wanting to keep his account of the regulation of the passions compatible with the immutable will of God. For he wants to maintain that we can and do sometimes change what we immediately feel about things. This commitment, however, can make us wonder if the Natural Institution is a proper causal relation. I have argued, however, that Descartes might well draw upon the medieval notion of covenantal causality to defend this account of the Natural Institution as properly causal, that is, as having the sort of necessity we take to be essential to a causal relation.

6. The Question of Directionality

What body-mind and mind-body interaction share: account of necessity. And where they might well differ: Expand discussion of activity of the mind in occasional causation, drawing on Rozemond. Ask: Is it occasional causation in the other direction? Elisabeth again: How *can* the mind move the body if the body has no intrinsic power?

7. The Responses of Malebranche and Spinoza

7.1 Malebranche's occasionalism

7.2 Spinoza and the 'dominion within a dominion'

7.3 Other Cartesians