

The Power Structure of Knowledge in Co-creation

A Generative Relational Being Perspective

Wanhong Huang

huangwanhong@serendip.ngo

Abstract

Accounts of knowledge and power have taken two broad forms. On the first, knowledge is content, and power is a contamination that a well-ordered epistemic practice excludes. On the second, associated with Foucault and with the sociology of knowledge, power conditions what may count as knowledge, so that the two are historically inseparable. This paper proposes a third account. Knowledge is a relational structure through which interpretation is coordinated, and every such structure generates asymmetry among its participants. Upon that asymmetry the tendency of a position to maintain itself is itself generative: it produces the conditions of its own continuation. Power in knowledge is this self-maintaining generativity, which places it within generation rather than in opposition to it. Five channels through which an epistemic asymmetry maintains itself are distinguished, following the life of an interpretation (proposal, admission, validation, revision, attribution), together with the cost of exit that prices them. The paper argues that a configuration degrades when the generation issuing from a position turns to the production of its own conditions, and that the criterion of this turn is the closure of the revision loop: whether an exercise of revision alters the conditions under which the next interpretation is generated. Generative power is treated as power rather than as its benign alternative, marked by the erosion of the conditions on which the exercising position depends. The account is developed across education, intimacy, international relations, and academic knowledge production, which are taken as instances of one mechanism.

Keywords: knowledge; power; co-creation; generativity; interpretation; revisability; relational epistemology.

A note on the standing of this paper. This is a theoretical proposal. It takes a familiar claim, that knowledge and power are entangled, and asks whether the two standing accounts of that entanglement exhaust it. The order of exposition follows the order of the argument: the existing accounts and their limits are set out first, and the generative account is introduced only as what they leave unaddressed. Should the critical tradition be shown already to answer the question posed here, the later sections lose their ground. The illustrative cases are drawn from ordinary settings rather than from systematic fieldwork, and they carry the weight of illustration only. Objection, correction, and counter-evidence are welcome at huangwanhong@serendip.ngo.

1 INTRODUCTION

A teacher and a student work through a problem together over a term. At the beginning the student proposes readings that are wrong and learns from their correction; by the end the student proposes readings the teacher had not considered. Nothing in this passage is remarkable, and it describes a large part of what education is for. Now consider a second term in which the same two people work through a second problem. The student proposes; the teacher corrects; the student proposes again. The corrections are accurate, the teacher is neither harsh nor negligent, and the student is neither lazy nor slow. Yet by the end of this term the student has come to propose less, and what the student does propose arrives already hedged, offered less as a reading than as a request for correction. No one has acquired knowledge the other lacks. No one has behaved badly. Something in the structure of the relation has changed, and the vocabulary in which knowledge is usually discussed does not readily say what.

The difficulty is not confined to teaching. A couple maintains, between them, an account of what their relationship is like: who is the anxious one, who withdraws, what happened on the occasion they both remember differently. The account is knowledge in the ordinary sense that it coordinates their expectations and their conduct. It may be an account both continue to shape, or it may be one that one party has come to author and the other to inhabit, so that the second party's objections are received as further evidence of the disposition the account assigns them. A junior researcher contributes to a project and is thanked in a footnote. A state accedes to a normative framework it had no part in drafting and is subsequently assessed by its compliance with it. In each case something that is recognizably knowledge is doing something that is recognizably power, and in each case the participants might sincerely deny that anyone is dominating anyone.

Two accounts of knowledge and power stand ready to be applied here, and neither is adequate to the difficulty. The first treats knowledge as content and power as a contamination. On this account, the proper business of an epistemic practice is the securing of justified belief, and power enters as an external distortion, of the kind exemplified by the eminent scientist whose authority suppresses a valid objection or the funder whose interest bends a finding, which better procedure would exclude. The account has the merit of specifying what would count as things going well. It cannot, however, describe the teaching case at all, since nothing external has intruded and no procedure was violated. The second account, developed in the critical tradition and above all by Foucault, holds that power conditions what may count as knowledge, so that the two are not separable even in principle. This is nearer the phenomenon and supplies much of its vocabulary. Its characteristic question, though, concerns control: which discourses are authorized, whose statements are admitted, how a regime of truth is constituted and sustained. The teaching case is not well described as a matter of control. The teacher controls nothing that was not already the teacher's to control at the start of the first term, when

the same relation was generative.

What both accounts share is a conception of power as something possessed, exercised, or distributed: held by a party, applied to another, apportioned among several. The present paper proceeds from a different conception, and stating it is the point of departure. Generation produces difference; difference produces asymmetry; and upon an asymmetry, the tendency of a position to maintain itself is a generative activity and not a static disposition. A position that judges must continually produce the conditions under which judgment falls to it: the standards by which proposals are assessed, the occasions on which assessment occurs, and the participants who arrive already constituted as those who propose rather than those who judge. Power, on this account, is generativity that has turned toward the maintenance of the position from which it issues. It is not the opposite of generation and not its absence; it is generation whose product is the condition of its own continuation. This is why the teaching relation can degrade with no one acquiring anything and no one acting wrongly. The generativity that had been returning to the common holdings of the parties has begun to return to the position that issues it.

The idea that power is intrinsically productive rather than merely restrictive is not new, and two precedents in particular stand behind the formulation. Nietzsche (1966) conceived power as a discharge of strength to which self-preservation is subordinate, and not as a quantity to be held, so that a power which does not extend itself is not power at all. Lacan (1977) described a desire that its object sustains and does not extinguish, circulating around a lack that the object marks rather than fills. Each supplies part of the structure at issue. The first holds that power must continue producing in order to exist; the second, that a configuration may reproduce the very condition on which it depends. The account developed here differs from both in its scope, and §3 states the differences. What is taken from them is the refusal of the possession model.

A word is owed on the term retained in the title. To speak of a power *structure* suggests an arrangement of holdings, a map of who possesses what, which is the conception just set aside. The term is kept for its familiarity, and what it denotes is reconstructed in what follows: a structure, on the present account, is a configuration of the channels through which a position's generativity may turn toward its own conditions, together with the cost at which that turning is sustained. It is a structure in that it is determinate, describable, and stable enough to be acted on; it is not a structure in the sense of a distribution of holdings among parties.

Two consequences follow immediately and shape everything after. The first is that the question of who holds interpretive authority is the wrong question, or at least a derivative one. What matters is whether an asymmetry is producing the conditions of its own continuation, which may occur without any party seeking it and which no redistribution of authority by itself prevents. The second is that power in knowledge is costly. A position that must generate in order to persist can fail to generate, and the conditions it produces can be undone by generation from elsewhere. Power of this kind is not a possession that endures once acquired; it is an

activity that lapses when it stops.

The paper is organized around three questions.

- RQ1.** Through what channels does an epistemic asymmetry maintain itself, and what fixes the configuration of those channels in a given setting?
- RQ2.** Under what conditions does the generativity issuing from an epistemic position return to common generation, and under what conditions does it turn toward the production of its own conditions?
- RQ3.** What follows for the design of co-creative structures, given that epistemic asymmetry can be neither eliminated nor rendered innocent?

The first supplies the vocabulary and is treated in §§4–6. The second is the centre of the paper and is treated in §§7–9. The third is the consequence and is treated in §10.

The account may be stated as a single claim.

Central claim. *Knowledge is a relational structure through which interpretation is co-ordinated, and every such structure generates asymmetry among its participants. Upon that asymmetry the tendency of a position to maintain itself is itself generative, producing the conditions of its own continuation; power in knowledge is this self-maintaining generativity. Every knowledge system accordingly embodies a power structure, and the question that bears analysis concerns the direction the generation takes, whether back into common generation or into the continuation of the position from which it issues.*

The claim unfolds in four steps. The first identifies the channels through which an epistemic asymmetry maintains itself, taking them from what an interpretation must undergo in order to exist: it must be proposed, admitted, validated, revised, and attributed. The second treats the cost of exit, which prices each of these channels, since a position maintains itself cheaply where leaving is dear. The third distinguishes the two directions the generation may take and supplies a criterion for telling them apart, the closure of the revision loop, which asks whether an exercise of revision alters the conditions under which the next interpretation is generated, or is absorbed and returned as evidence of the reviser's deficiency. The fourth treats the production of knowers, which is the principal means by which an epistemic position maintains itself, and which unifies the settings the paper examines.

Three things the paper does not claim should be entered at the outset, since work in this territory is commonly read as claiming them. It does not hold that epistemic asymmetry is oppression: asymmetry is constitutive of the relations at issue, and there is no teaching, no diagnosis, and no collaboration between unequals without it. It does not hold that co-creation requires the flattening of epistemic difference, which would abolish the relations rather than

improve them. And it does not hold that generative power is benign. A teacher who opens a student's thinking has shaped the space in which that student will think for years, and that formative asymmetry is not innocent for being generative; §8 treats the point directly rather than passing over it. Nor is any dynamical finding here to be read as a political position; the argument concerns the direction of generation within relations, and it adjudicates no concrete historical or institutional trajectory.

The remainder proceeds as follows. §2 reviews the treatment of knowledge as content and the conception of power as external contamination that accompanies it. §3 reviews the critical accounts of Nietzsche, Lacan, Foucault, Bourdieu, and the actor-network tradition, and argues that their organizing concepts of control and possession leave the present question unposed. §4 develops the conception of knowledge as the organization of interpretive relations and argues that co-creation is the general case. §5 sets out the five channels of self-maintenance. §6 treats the cost of exit. §7 distinguishes the two directions of generation and states the criterion of loop closure. §8 treats generative power. §9 treats the production of knowers. §10 draws the design consequences, and a closing section states the limits of the account and the work it leaves open.

2 KNOWLEDGE AND CONTENT

The tradition that treats knowledge as content is the one against which the critical accounts define themselves, and it is worth stating in its own terms before its limits are drawn, since the limits are not the ones usually alleged. The tradition is not naive about the social circumstances of inquiry. What characterizes it is a particular division of labour: the analysis of knowledge concerns the conditions under which a belief is warranted, and the circumstances of its production, however interesting, belong to a different inquiry.

2.1 *Justification and the Individual Knower*

The classical analysis takes knowledge to be belief that is both true and justified, an analysis with a long ancestry and a specific modern history. Gettier (1963) showed in three pages that the three conditions are jointly insufficient, since a belief may be true and justified and yet owe its truth to accident; the half-century of repair that followed, comprising the addition of a fourth condition, the requirement of a reliable process, and the demand that the belief be safe or sensitive, has not produced a settled analysis. Goldman (1967) located warrant in the causal history of the belief and later in the reliability of the process producing it, which moved the analysis away from what the knower can adduce and toward the facts about how the belief came about.

What matters here is a structural feature that the internal disputes leave untouched. Throughout, the unit of analysis is a subject and a proposition. Knowledge is a relation between one

knower and one content, and the presence of other people enters, if at all, as a source of evidence or as a route by which a belief was acquired. Social epistemology has since complicated this considerably. Goldman (1999) treats social practices by their tendency to produce true belief, and a substantial literature on testimony asks when a hearer is warranted in believing a speaker; the complication is real. It nonetheless retains the orientation: the other person figures as an input to one knower's warrant. The question of what the relation between the parties becomes, in consequence of an interpretation having been accepted between them, is not a question the framework poses.

2.2 *The Neutrality Thesis*

From the individual analysis a further thesis is commonly drawn, less often stated explicitly. If knowledge is warranted content, then power is external to it. Content is what it is regardless of who asserts it, and the influence of standing, interest, or authority upon what a community believes is a distortion, a failure of the epistemic practice rather than a feature of it. The thesis licenses a clear normative programme: identify the channels through which non-epistemic influence enters, and close them. Blind review, replication requirements, disclosure of funding, and the norms of impersonal argument are its institutional expressions, and they are neither foolish nor ineffective.

The limit of the thesis is visible in the case with which this paper opened. In the second term nothing external intruded. No authority was invoked to suppress an objection; no interest bent a judgment; the corrections were accurate and the procedures intact. Yet the relation ceased to generate. The neutrality thesis has no resources to describe this, because on its terms nothing went wrong: true content was transmitted, warrant was preserved, and the practice functioned as designed. What changed lay in the relation between the parties, and the thesis takes that relation to be epistemically inert.

2.3 *The Transmission Model of Teaching and Learning*

The same orientation shapes the treatment of teaching. If knowledge is content held by one party, then teaching is its conveyance to another, and learning its acquisition, a picture that survives in curriculum design, in assessment by recall, and in the ordinary metaphors of delivering material and covering ground. Freire (1970) named this the banking conception, in which the teacher deposits and the student receives, and argued that it constitutes the student as an object rather than a participant. Freire's alternative is a pedagogy in which teacher and student inquire jointly, and his argument is explicitly political, directed at the reproduction of oppression through schooling.

The banking critique is correct in what it identifies and is taken up here in one respect and departed from in another. What is taken up is the observation that a conception of knowledge

carries a conception of the relation between the parties, so that the transmission picture specifies what each party is to be and does not neutrally describe teaching. What is departed from is the location of the difficulty. On Freire's account, the banking conception is imposed by an oppressive order and is to be replaced by a dialogical one. The case with which this paper opened is not of that kind: the first term was dialogical, the same two people were present, and no order imposed anything. A relation that was generating ceased to generate. The banking critique addresses a structure adopted at the outset; the phenomenon at issue here is a change of direction within a structure that began well.

3 THE CRITICAL ACCOUNTS OF KNOWLEDGE AND POWER

The critical tradition holds that power is not external to knowledge, and the present account agrees. Its several branches, though, share an orientation that leaves the question of this paper unposed. This section takes the two philosophical precedents from which the conception of productive power descends, then the three social-theoretical accounts that developed it, and closes by naming what they hold in common.

3.1 *Nietzsche and the Increase of Power*

Nietzsche's conception of power is not that of a quantity a party holds. In Nietzsche (1966, §13) he proposes that a living thing seeks above all to discharge its strength, and that self-preservation is a consequence of this rather than its aim, a formulation directed against the Spinozist and Darwinian primacy of preservation. The doctrine bears on knowledge directly: Nietzsche (1966, §259) extends the account of appropriation and overpowering from the organic to the social, and elsewhere he treats the will to truth itself as a form of the same will rather than as its neutral instrument. On this conception power is exercised and not held, and an exercise that does not extend is not an exercise at all.

Two things are taken from this and one is set aside. What is taken is the refusal of the possession model: power exists in its activity and lapses when the activity stops. What is also taken is the coupling of power to increase, which supplies the sense in which a position must continue producing in order to persist. What is set aside is the metaphysical scope. Nietzsche's is a doctrine about what living and perhaps all things fundamentally are; the claim here is narrower and correspondingly weaker, holding that self-maintenance is one direction generativity may take within a relation and not the nature of generation as such. The narrower claim is also the more tractable, since a direction can be observed to change while a fundamental drive cannot.

A caution about sources is in order. The most quotable statements of the will to power appear in *The Will to Power*, a compilation assembled from the notebooks after Nietzsche's collapse and not a work he composed; the citations above are to material he published himself,

and the doctrine is stated there.

3.2 *Lacan and the Dialectic of Desire*

Lacan's account of desire supplies the second precedent, and its relevance is structural rather than thematic. Desire, on this account, is not extinguished by the attainment of its object. The object that appears to be its aim, the *objet petit a*, marks the place of a lack rather than filling it, and desire circulates past the object and continues (Lacan, 1977). The configuration is therefore self-sustaining in a specific sense: what appears to be the terminus of the process is in fact the means by which the process reproduces the condition on which it depends.

The structure is the one at issue in this paper, transposed. An epistemic position that judges is sustained by the continual reproduction of the circumstance in which judgment falls to it, and not by the judgments it delivers, and each particular judgment, which appears to settle a matter, in fact renews that circumstance. Where the present account departs from Lacan is in what carries the structure. For Lacan it is constitutive of the subject and is elaborated in the register of the unconscious; here it is a property of a relational configuration, and is therefore observable in the conduct of a relation and revisable by changes to it. The departure has a methodological consequence that should be stated plainly: the criterion this paper offers in §7 is meant to be checkable against what happens in a relation, which the psychoanalytic account, by the nature of what it describes, does not undertake to be.

3.3 *Foucault and the Conditioning of the Sayable*

Foucault supplies the account against which this paper most directly positions itself, and the debt is large. Foucault (1977) argues that power and knowledge directly imply one another, so that there is no relation of power without the correlative constitution of a field of knowledge, and no knowledge that does not at the same time presuppose and constitute relations of power. Power on this account is productive rather than merely repressive: it produces domains of objects, rituals of truth, and the individuals who are its vehicles. In the later work (Foucault, 1978) he cautions against treating power as a possession or a capacity held by a sovereign, describing it instead as a multiplicity of force relations immanent to the sphere in which they operate. The archaeological studies (Foucault, 1972) pursue the correlative question of what conditions govern the emergence of statements within a discursive formation.

The present account accepts all of this and asks something the framework does not. Foucault's characteristic question concerns the constitution of a regime: how a domain of the sayable is established, what it excludes, and by what practices it is sustained. It is a question about the conditions under which knowledge of a certain kind becomes possible, pitched at the level of discourses and their historical formation. The teaching case is not answered at that level. The same two people, within one discursive formation, with the same authorized

vocabulary available throughout, pass from a generative relation to a degraded one. Nothing about the regime changed. What changed was the direction in which the generativity of one position within it was running, and the analysis of regimes does not descend to that.

3.4 *Bourdieu and the Accumulation of Academic Capital*

Bourdieu treats knowledge production as a field in which agents compete for a capital specific to it. Bourdieu (1988) analyses the academic world as such a field, with positions defined by the volume and composition of the capital its occupants hold, and Bourdieu (1975) treats the scientific field as one in which the pursuit of truth and the pursuit of scientific authority are not separable, since authority is won by producing what the field recognizes as a contribution. The framework accounts well for a range of phenomena that the neutrality thesis cannot: the durability of hierarchies of prestige, the reproduction of dispositions through training, and the alignment of what is thinkable with what is rewarded.

The organizing metaphor, though, is accumulation, and accumulation is a possession model. Capital is held, invested, converted, and transmitted, and the analysis proceeds by locating agents in a distribution of holdings. Two difficulties follow for the present question. The first is that a position may maintain itself without accumulating anything, as in the teaching case, where the teacher's holdings are constant throughout. The second is that the model gives no natural place to the possibility that an exercise of a position might *erode* the conditions of that position, which is precisely what §8 argues generative power does. Under an accumulation metaphor such an exercise is simply expenditure, and its structural difference from other expenditure cannot be stated.

3.5 *Latour and the Enrollment of Actors*

The actor-network tradition rejects the treatment of power as a substance more thoroughly than the foregoing. Latour (1987) argues that a statement's fate lies in the hands of those who take it up, so that a claim becomes a fact through the work of enrolling others who use it, extend it, and build upon it; Latour (1986) argues that power is a consequence of collective action rather than its cause, and that to explain an outcome by invoking power is to name what requires explanation. Callon (1986) sets out the moments by which enrollment proceeds. The tradition thus supplies something the others do not: an account in which the standing of a claim is continuously made rather than held, and in which the relevant activity is ongoing.

Its concern, however, is the fate of statements and the composition of networks. What becomes of the *parties* in the course of enrollment, what a participant is constituted as, and whether that constitution is what sustains the network, are not the questions posed, and the tradition's methodological commitment to following the actors rather than assessing their relations makes it an awkward one to pose from within. §9 argues that the production of partic-

ipants of certain kinds is the principal means by which an epistemic position maintains itself, which is a claim about what enrollment does to those enrolled.

3.6 *The Limits of Control and Possession*

Across their differences, the accounts reviewed share a way of framing the question. Whether knowledge is content held by a knower, capital accumulated by an agent, a regime that authorizes some statements and excludes others, or a network that enlists allies, the analysis asks who controls what, and by what means the control is established and maintained. This is a good question, and where domination is the phenomenon it is the right one.

It is not the question the teaching case raises. There, control is constant and the relation changes; no one takes anything, and something is lost. What the case requires is a question about direction rather than distribution, asking whether the generation issuing from a position is returning to the common holdings of the parties or to the conditions of the position itself. Posing that question requires first saying what knowledge is such that a position within it can generate at all, and to that the next section turns.

4 THE ORGANIZATION OF INTERPRETIVE RELATIONS

The reviews leave a question standing: what must knowledge be, such that a position within it can generate at all? This section answers it. The answer is offered as a shift in what the term is taken to pick out and not as a refutation of the analyses reviewed, and the warrant for the shift is that it brings into view a class of phenomena the other construals leave unaddressed.

4.1 *The Coordination of Interpretation and Future Action*

Knowledge, on the construal adopted here, is a relational structure through which the interpretations of several parties are coordinated and their future action thereby conditioned. The formulation has three parts, and each does work.

That it is *relational* means the unit of analysis is a configuration of parties, and not a knower and a proposition standing in determinate relations to an interpretation. To say that a diagnosis is knowledge is to say something about the physician, the patient, the family, and the institutions that will act upon it, and not only about the correspondence between a statement and a condition of the body. That it is *interpretive* means what is coordinated is a reading of a situation rather than a bare content: an interpretation selects what in a situation is salient, what follows from it, and what would count as its being wrong. And that it conditions *future action* means an interpretation is consequential in the sequence it opens: which further interpretations become available, which are foreclosed, and what each party is thereafter positioned to do.

This construal does not deny that a proposition may be true or false, nor that a belief may be warranted or unwarranted. Those questions remain, and the analyses reviewed in §2 address them. What the construal denies is that the truth of the content exhausts what knowledge is doing among the parties who hold it. A true diagnosis and a false one are alike in reorganizing a family; a correct correction and a mistaken one are alike in positioning one party as the corrector.

4.2 *The Immediacy of Relational Effect*

The construal carries a consequence that distinguishes it from the critical accounts as well as from the classical ones. On the critical accounts, the relation between knowledge and power is genetic or conditional: power shapes what comes to count as knowledge, and knowledge in turn sustains the arrangements that produced it. The relation is real but mediated, running through the historical constitution of a discourse or the accumulated positions of a field. On the present construal the effect is immediate in a specific sense. Capacities are allocated among the parties in virtue of an interpretation's acceptance, and the allocation is a feature of that acceptance and not a subsequent application of it. The allocation reaches a party when the interpretation does, which for parties absent at its acceptance may be later; what is denied is that the reallocation waits upon the interpretation being acted on.

Consider the physician's statement that a patient has a particular condition. The statement, once accepted, does not merely describe. It establishes who is entitled to say what the patient's sensations signify, what the patient's own report of them counts as, whether evidence or symptom or noncompliance, which parties are to be consulted, what the family is to expect, and how a subsequent disagreement will be classified. None of this waits upon the statement being acted on. It obtains in virtue of the statement being accepted as knowledge, since being accepted as knowledge is being granted this coordinating force.

The teacher's statement that a proposed reading is mistaken has the same character. It corrects a reading; and in the same motion it renews the standing of the party who corrects, specifies the register in which the student's next proposal will be received, and settles what the student's disagreement, should it come, would be an instance of. A parent's account of why a child is crying does likewise, and so does one partner's account of what a recurring difficulty between them is really about.

Claim 1. *An accepted interpretation allocates capacities among the parties in virtue of its acceptance and not in virtue of its later application, and begins thereupon to generate the conditions of its continued acceptance. The relational effect of knowledge belongs to its constitution.*

The second half of the claim is the one that matters for what follows, and it should be read carefully. To say that an accepted interpretation generates the conditions of its continued accep-

tance is not to say that the interpretation is self-confirming in the sense of being unfalsifiable. It is to say that acceptance establishes an arrangement of who assesses, on what occasions, and by what standards, and that this arrangement is what the next interpretation will encounter. The diagnosis establishes that subsequent reports of sensation will be received as symptoms; the correction establishes that subsequent proposals will be received as candidates for correction. Whether the arrangement so established persists is a further question, and it is the question of §7.

4.3 *The Generality of Co-creation*

If knowledge is the coordination of interpretation among parties, then the settings in which knowledge is co-created are not confined to organized inquiry. Four are treated in this paper, and they are selected because they differ in almost every respect except the one at issue.

In *education*, teacher and student generate an account of a subject matter and, inseparably, an account of the student's competence at it. The second is generated whether or not anyone attends to it, since every assessment of a proposal is also a placement of the proposer.

In *intimate relations*, two parties generate an account of what their relationship is, what each of them is like within it, and what their shared history was. This account is knowledge in the full sense used here: it coordinates interpretation, conditions future action, and settles what a subsequent disagreement will be taken to be about. It is also, characteristically, generated without any of the procedural safeguards that organized inquiry supplies.

In *international relations*, states and other actors generate accounts of what a situation is, what a norm requires, and which parties are competent to say. The literature on norm emergence describes how such accounts spread and become taken for granted (Finnemore & Sikkink, 1998), and the constructivist tradition holds that the structures of international politics are constituted by shared understandings rather than given by material distribution alone (Wendt, 1999). What the present account adds is a question these do not pose: what happens to the parties in consequence of a shared understanding being established, and whether the arrangement so established continues to admit revision from those it positions.

In *academic knowledge production*, researchers generate accounts of a domain together with accounts of who is competent within it. The apparatus of review, citation, and authorship makes the second explicit in a way the other three settings do not, which is why it furnishes the clearest evidence, and why it has attracted most of the theoretical attention reviewed in §3.

The claim entered here is that these are instances of one structure rather than analogies drawn between distinct ones. Each involves parties coordinating interpretation; in each, the coordination allocates capacities immediately; in each, an established arrangement conditions what the next interpretation will meet. Academic production is accordingly one instance among four, and the fact that its arrangements are documented does not make it the paradigm case. The clinical, domestic, and diplomatic instances are less documented and not less struc-

tured.

Claim 2. *Co-creation is the general case of knowledge and organized inquiry a special case of it. Education, intimate relation, international practice, and academic production instantiate a single structure, the coordination of interpretation among parties with its immediate allocation of capacities, and differ in the configuration of that structure rather than in kind.*

What that configuration consists of has so far been left unspecified. Capacities have been said to be allocated, without a statement of which capacities there are or why those. Supplying the specification is the work of the next section, and the specification is to be derived rather than enumerated: the channels are to follow from what an interpretation must undergo in order to exist at all.

5 THE LIFE OF AN INTERPRETATION

An interpretation, to exist as knowledge among parties, must undergo a definite course. It must be put forward by someone; it must be taken up rather than passed over; it must be found to hold; it must be alterable in the light of what follows; and it must be assigned to a source. Each stage is a point at which the parties stand in an asymmetric relation to one another, and each is accordingly a channel through which an asymmetry may maintain itself. The list that follows is derived from this course and is closed by it: the stages are five because the course of an interpretation has five, and a sixth would require a stage in the life of an interpretation that has not been named.

A word on what is claimed by the derivation. It is not claimed that the five are logically necessary in the sense that no coherent alternative could be framed, nor that they are the only vocabulary in which the phenomena could be described. What is claimed is that they follow from a minimal description of what must happen for an interpretation to be operative among parties, that they are jointly sufficient for the cases this paper treats, and that the enumerations offered in the adjacent literatures, which typically proceed by listing salient asymmetries as they are noticed, lack a principle by which to be completed or closed. A reader who would add a sixth is invited to name the stage it corresponds to.

5.1 *Proposal*

An interpretation must first be put forward. The asymmetry at this stage concerns who may advance a reading of a situation, and in what register a reading advanced by each party arrives. The register matters as much as the entitlement. A student may be formally free to propose while every proposal arrives as a candidate for correction; a patient may describe a

sensation while the description arrives as material awaiting interpretation rather than as an interpretation itself. The distinction between advancing a reading and supplying raw material for another's reading is the substance of this channel, and it is not settled by permission.

An asymmetry maintains itself here by conditioning the register in advance. Where one party's contributions are habitually received as data, the receiving position is renewed by each such reception, and the contributing party learns the register and supplies contributions fitted to it. Neither party need intend this. It is sufficient that reception be consistent.

5.2 *Admission*

A proposal put forward must be taken up. The asymmetry at this stage concerns which proposals enter consideration at all: not which are accepted, but which are treated as having been made. A proposal may be met with silence, with a change of subject, with an acknowledgment that does not engage, or with the observation that it is not the present concern; in each case it has been put forward and has not been admitted.

This channel is the most easily overlooked, because non-admission leaves little trace. A rejected proposal is on the record as rejected; a proposal never taken up is on the record as nothing. The consequence is that a configuration can be highly restrictive at this stage while appearing open at the next, since the proposals that reach validation are precisely those already filtered. An asymmetry maintains itself here with the least expenditure of any channel, for it need not argue.

5.3 *Validation*

An admitted proposal must be found to hold or not to hold. The asymmetry at this stage is the one most readily recognized as epistemic authority: who determines whether an interpretation stands, and by what standards. Two features of it bear on the argument.

The first is that standards and their application are not separable in practice. A configuration in which standards are explicit and public differs from one in which they reside in the judgment of a party, and the difference lies in the first exercising its asymmetry through something the other party can inspect and invoke.

The second is that validation, more than the other channels, produces a durable trace. A validated interpretation is thereafter available as an established point from which further interpretation proceeds, and the position that validated it is thereby renewed. This is the channel in which self-maintenance is most direct: to validate is to reproduce the circumstance in which validation falls to one.

5.4 *Revision*

An established interpretation must be alterable in the light of what follows. The asymmetry at this stage concerns who may reopen what has been settled, and, more consequentially, what an attempt at reopening is received as.

The second half is where the substance lies, and §7 is devoted to it. It is nearly universal that revision is formally available: the student may object, the patient may seek a second opinion, the junior author may query the framing, the partner may say that the account of the recurring difficulty is wrong. What varies is whether the attempt alters the arrangement or is received within it, taken as evidence of the objector's limited grasp, the patient's anxiety, the junior's inexperience, or the partner's characteristic difficulty. In the latter case revision has been exercised and the arrangement has been renewed by the exercise. This is the channel in which an asymmetry maintains itself most powerfully, precisely because the maintenance operates through the mechanism nominally provided to check it.

5.5 *Attribution*

An interpretation must be assigned to a source. The asymmetry at this stage concerns whose contribution is recorded as a contribution, and it is the channel with the clearest institutional expression: authorship, order of authorship, acknowledgment, citation. It has less formal expression in the other settings and operates there no less, as in the household where one party's suggestion becomes the household's decision without remainder, or the negotiation where a proposal is adopted under another delegation's name.

Attribution is consequential beyond credit, because it conditions the register at the next round of proposal. A party whose contributions are recorded arrives at the next proposal as one who has contributed; a party whose contributions are absorbed arrives as one who has not. The channel therefore closes back onto the first, and an asymmetry maintaining itself through attribution does so by shaping what each party will be at the next occasion.

5.6 *The Configuration of the Five Channels*

The five channels are not a hierarchy and not a sequence of increasing severity. They are distinct points at which an asymmetry may be maintained, and a given setting configures them independently. The seminar that admits freely and validates narrowly differs from the one that admits narrowly and validates by public standards; the clinic that attributes carefully to the patient's own report differs from the one that does not, whatever their similarity at validation. The configuration is the object of analysis, and the following table records the form each channel takes in the four settings.

	<i>Education</i>	<i>Intimate relation</i>	<i>International practice</i>	<i>Academic production</i>
Proposal	Register in which a student's reading arrives	Standing to say what the relation is like	Standing to say what a situation is	Standing to frame a research problem
Admission	Which questions are treated as questions	Which grievances are taken up	Which items reach an agenda	Which submissions are sent for review
Validation	Assessment and its standards	Whose account of a shared event holds	Determination of compliance	Peer review and its criteria
Revision	Reception of a challenge to a correction	Reception of an objection to the account	Reopening of a settled norm	Reception of a challenge to an established result
Attribution	Recognition of a student's contribution	Recording of whose suggestion it was	Whose proposal a provision is under	Authorship, order, acknowledgment

The table is offered as an analytical grid rather than as a finding. Its use is to make configurations comparable: two settings that appear similar in their formal arrangements may be found to differ at a particular channel, and a setting that appears open may be found restrictive at admission while unrestrictive elsewhere.

Claim 3. *The channels through which an epistemic asymmetry maintains itself are five, namely proposal, admission, validation, revision, and attribution, and are closed by the course an interpretation undergoes to be operative among parties, on the minimal description defended above. Settings differ in the configuration of these channels rather than in their number, and a configuration may be restrictive at one channel while unrestrictive at others.*

Two questions are left open by the enumeration. The first is what determines the cost at which an asymmetry maintains itself through these channels, which is not given by the channels themselves; a configuration identical at all five may be readily borne in one setting and not in another. The second is what distinguishes a configuration whose generativity returns to the common holdings of the parties from one whose generativity returns to itself, which the channels record but do not explain. The first is treated next; the second in §7.

6 EXIT AND THE PRICE OF EPISTEMIC CAPACITY

The five channels record how an asymmetry is maintained; they do not record what the maintenance costs. Two configurations identical at every channel may nonetheless differ, and the variable that differentiates them lies outside the channels: the cost, to each party, of leaving the relation altogether. This section treats that cost. It is not a sixth channel, since exit is not a stage in the life of an interpretation; it is the condition under which the five operate, and it prices them.

6.1 *The Cost of Leaving*

Hirschman (1970) distinguished two responses available to a member of a declining organization: exit, the withdrawal of participation, and voice, the attempt to change matters from within. His central observation for present purposes is that the two interact. The availability of exit conditions the character and effectiveness of voice, and an organization from which departure is easy faces a different discipline from one whose members are held. Hirschman's concern was the responsiveness of firms and organizations to decline. The observation transfers to the epistemic case with a modification, and the modification is the point.

Where leaving is dear, an epistemic position maintains itself at low cost. It need not persuade, need not deliver, need not continue to generate anything the other party finds worth staying for, because the other party's remaining is not a judgment on what the position supplies. Where leaving is cheap, the same position must maintain itself expensively: it persists only so long as it continues to generate something that holds the parties, and a lapse in generation is answered by departure. Recalling that power on this account is generativity turned toward the conditions of its own continuation, the cost of exit sets the price of that turning. A high cost of exit is a subsidy.

The formulation yields a claim that is stronger than it first appears. It is not that captivity makes an epistemic asymmetry oppressive; it is that captivity permits an asymmetry to persist without generating. The same physician, the same standards, the same manner produce a different structure in a setting where the patient may consult another and in a setting where the patient may not, and the difference lies in what the conduct must accomplish to be sustained, and not in the physician's conduct at any of the five channels.

6.2 *Captive Configurations in Intimacy and Organization*

Intimate relations are the setting in which the cost of exit is highest and least legible, since the cost is not principally material. To leave is to lose a shared history, a joint account of oneself, and the interpretive resources built up over years; and the account of the relation held between the parties is itself among the things that would be lost. A party who has come to be positioned as the one who misunderstands does not readily leave, in part because leaving

would require the very interpretive standing the arrangement has withheld. This is the structure that distinguishes an ordinary asymmetric relation from one that has become closed: the conjunction of an unfavourable configuration with a cost of exit that removes the pressure to improve it.

Organizational settings furnish more legible instances. A doctoral student whose supervisor is the field's principal figure at a particular institution faces an exit cost measured in years and in the standing that letters of reference confer; a junior researcher on a visa tied to an employer faces one measured in the right to remain. In both, the configuration of the five channels may be no different from that facing a student or researcher with alternatives, and the structure is different, because nothing in it must be earned.

The point is not confined to the party with less capacity. Exit costs run in both directions, and a position that would be costly to vacate, such as a supervisor whose funding depends on a student's completion or a partner whose account of the relation depends on the other's corroboration, is a position under pressure to generate. Where both parties would find leaving costly, the configuration is held in place from both sides, which is the condition under which the longest-lived and both the most generative and the most degraded relations are found.

6.3 *Asymmetric Alliance and the Absence of an Outside*

The international case exhibits a variant worth distinguishing, since it bears on what the analysis can claim beyond the interpersonal. A state within an asymmetric security arrangement, or within a monetary or trading order it did not design, faces an exit cost that is high and in some instances undefined: there may be no outside to depart to. Where a normative framework has become the medium in which claims of any kind are made intelligible, withdrawal from it forfeits the standing to make claims at all and reaches no alternative.

This is the limiting case of a costly exit, and it shows what the variable does at its extreme. A framework with no outside maintains itself without generating, since the parties it positions have no comparison against which its performance could be assessed and no destination that departure would reach. Nothing in this entails that such a framework is malign, and the analysis does not license that inference: a framework may be both inescapable and generative, and the absence of an outside says only that its generativity is not enforced by the possibility of departure. What it must instead be enforced by is the subject of §7.

A caution is owed on the transfer of a concept developed for individuals and firms to states. Exit for a state is not the decision of a unitary agent, and the costs fall unevenly on domestic constituencies; the case is offered as an instance of the structural variable and not as a claim about how states in fact decide.

Claim 4. *The cost of leaving prices the five channels. Where exit is dear, an epistemic position maintains itself without needing to generate anything that would hold the parties;*

where exit is cheap, the same position persists only in so far as it continues to generate. A high cost of exit is accordingly a subsidy to whatever asymmetry the configuration already contains, and not an additional asymmetry.

The claim identifies what enforces generation from outside a relation. It leaves untreated the question of what may enforce it from within, which becomes the whole question wherever exit is dear, which is to say in the intimate relations, the formative educational relations, and the encompassing international frameworks that matter most. That question is the centre of the paper, and the next section takes it up.

7 ABSORPTION AND THE CLOSURE OF THE REVISION LOOP

The question left standing is what enforces generation from within a relation. This section answers it, and the answer requires first correcting a picture that the preceding sections may have suggested. The correction is that absorption and self-maintenance are two directions available to a single generativity, and not two forces contending, one benign and one malign. Once that is stated, a criterion can be given for telling them apart, and the criterion is the paper's principal analytical proposal.

7.1 *Two Directions of One Generativity*

Where an asymmetry exists, the position it defines generates. It produces standards, occasions, distinctions, and participants suited to it, and it must produce them continually, since a position that stops producing them ceases to be a position. The question is where the product goes.

It may return to the common holdings of the parties. A teacher who validates a student's reading produces, in that act, a standard; and the standard may be one the student can thereafter apply, contest, and extend, in which case what the validation generated has entered the common holdings of the two parties and is available to the student at the next proposal. Or it may return to the position. The same validation may produce a standard that resides in the teacher's judgment, is applied case by case, and is not available to the student except as something to be submitted to, in which case what the validation generated is the renewed circumstance in which validation falls to the teacher.

Little distinguishes these two at the level of the act. Both are validations, both may be accurate, both may be delivered with equal care. They differ in the destination of what they generate, and the difference accumulates. It is for this reason that the case with which this paper opened involves no acquisition and no misconduct. The teacher of the second term is not doing anything the teacher of the first term did not do. The generativity that had been running into the common holdings is running into the conditions of the teaching position,

and the student is encountering, at each proposal, an arrangement that the previous exchange renewed.

The term *absorption* names the first direction: the asymmetry generated by a relation is taken up into the common generation of the parties, so that what would otherwise consolidate a position becomes a holding both may use. Self-maintaining generativity, in the sense given in §1, names the second. Absorption is not the suppression of an asymmetry and not its equalization. The teacher remains the more competent party throughout, and the asymmetry is undiminished; what changes is that its generativity is continually returned. Degradation, correspondingly, is the turning of this direction and not the appearance of something new, and it requires no agent.

7.2 *The Insufficiency of Available Revision*

A natural proposal at this point is that what keeps a relation generative is revisability: an asymmetry is tolerable so long as it remains open to challenge, and degrades when it becomes unchallengeable. The proposal is close to correct and, as ordinarily stated, nearly empty.

It is nearly empty because revision is almost always formally available. The student may object; the patient may seek another opinion; the junior author may query the framing; the partner may say the account is wrong; the state may enter a reservation. Configurations that permit no challenge whatever are rare, and they are not the interesting cases. The interesting cases are those in which challenge is permitted, is exercised, and changes nothing, for the reason that it was received and not that it was overruled.

Consider the child told that a proposed course is being forbidden for the child's own good, who replies that the reason is not the real reason. The reply is a challenge, it was permitted, and it was made. It is received as evidence of the immaturity that warranted the original judgment. The arrangement has not been shaken by the challenge; it has been fed by it, since the challenge supplied a fresh occasion for the judgment to be exercised and confirmed. The partner told that they are being defensive, who replies that they are not being defensive, meets the same structure. So does the student whose objection to a correction is received as not yet understanding the correction.

The structure is worth naming precisely, because it is what makes availability the wrong criterion. In each case the party challenging is required to produce something, whether an objection, a reason, or a denial, and the arrangement is configured so that whatever is produced counts as further material for the position being challenged. The challenger cannot decline to respond, since silence is also received as confirmation. Revision has been exercised, and the exercise has renewed what it was directed against.

7.3 *The Open Loop and the Closed Loop*

What the foregoing indicates is that the criterion must concern the effect of an exercise of revision rather than its availability. It may be stated as follows.

The criterion of loop closure. *An exercise of revision closes the loop when it alters the conditions under which the next interpretation is generated: the standards by which proposals are assessed, the register in which they are received, the occasions on which assessment occurs, or the standing of the parties to assess. It leaves the loop open when it is received within those conditions and returned as material confirming them.*

Three features of the criterion should be noted. The first is that it concerns conditions rather than outcomes. A challenge that is considered seriously and found to be mistaken may close the loop, provided that the grounds on which it was found mistaken are thereafter available to the challenger; a challenge that is conceded on the particular while the standing to challenge is left untouched may leave the loop open. Being right is neither necessary nor sufficient.

The second is that the criterion is checkable in principle, which was the ground on which §3 distinguished this account from the psychoanalytic one. What it asks after is whether the terms of the next exchange differ from the terms of the last, and this is a matter of observable conduct: whether a standard invoked once becomes a standard the other party may invoke, whether a concession granted becomes a precedent that may be cited, whether an objection admitted alters what the objector may thereafter propose without preface. The checking is not trivial and the paper offers no procedure for it; the claim is that the criterion refers to something that could be looked for.

The third is that closure admits of degree and is a property of a sequence rather than of an act. No single exchange settles whether a relation's revision loop is closed, since the effect of an exercise appears in what follows it. The criterion is applied to a run of exchanges, and what it detects is a tendency.

7.4 *Degradation Without Acquisition*

The account now assembled explains the phenomenon with which the paper began, and it is worth setting out the explanation explicitly, since it is the principal evidence for the account.

In the first term, the teacher's corrections closed the loop. Each correction made available to the student a standard the student could thereafter apply: the ground on which the answer was assessed, and not the answer alone, so that the student arrived at the next proposal with more to propose from, and the teacher arrived at it facing a party whose proposals required a different reception. The asymmetry was undiminished and its generativity was returning to the common holdings of the parties.

In the second term the loop opened. The corrections remained accurate and the manner unchanged; what altered was that the ground of assessment stopped travelling. Each correction settled a case and renewed the circumstance in which the teacher settles cases, and the student, encountering this, learned the register, which is the point at which the hedged proposal appears, since a proposal offered as a request for correction is a proposal fitted to the arrangement it will meet. Nothing was acquired by either party. No procedure was violated. The direction of the generation turned, and the arrangement thereafter reproduced itself through the student's own adaptation to it.

Claim 5. *Absorption and self-maintenance are two directions of a single generativity rather than two opposed forces. A configuration absorbs the asymmetry it produces when the generativity issuing from a position returns to the common holdings of the parties, and degrades when that generativity returns to the conditions of the position itself. Degradation accordingly requires neither acquisition nor misconduct, and its criterion is the closure of the revision loop.*

One implication should be drawn out, as it bears on the design consequences of §10. If degradation requires no agent, then no configuration is secured by the good intentions of the party the asymmetry favours, and none is secured by the formal availability of challenge. What secures a configuration is that the exercise of revision within it has effects that persist, which is a property of the arrangement and not of anyone's disposition. A generous teacher whose corrections do not travel maintains a position as surely as an ungenerous one, and rather more effectively, since the generosity conceals the closure.

8 GENERATIVE POWER

The account so far has treated the five channels, the price at which they are held, and the criterion distinguishing the two directions a position's generativity may take. It has not yet named what a position does when its generativity runs the other way. That is the subject of this section, and the concept it introduces is the one on which the paper stakes its contribution. The concept is also the one most liable to be misread, and the misreading is the reason for the section's final part.

8.1 *The Expansion of the Space of Proposal*

The five channels are stages in the life of a given interpretation. A position may act upon them, and everything treated so far has concerned such action. A position may also act upon something prior: the space from which interpretations may be drawn at all: what may be treated as a candidate reading of a situation, what may be raised as a question about it, and what would count as a consideration bearing on it.

This is a distinct kind of exercise, and the distinction is not one of degree. To validate a proposal is to act within a space of proposals already constituted. To alter what may be proposed is to act on the constitution of that space. A teacher who marks a reading correct operates in the first register. A teacher who shows that a question the student took to be closed is open, or that a consideration the student took to be irrelevant bears on the matter, operates in the second: the student thereafter has available a range of proposals that were not previously available, and this availability does not depend on the teacher's further participation.

Call the capacity to act in this second register *generative power*. It is exercised in every setting the paper treats. A supervisor who reframes what a field's central difficulty is has expanded what a student may work on. A partner who articulates a difficulty in terms neither had used before has made available to both a way of describing their relation that neither previously had. A delegation that introduces a category into a negotiation, supplying a way of characterizing a dispute that the parties had not been able to characterize, has expanded what may thereafter be proposed by any of them. In each case something has been made possible rather than settled.

8.2 *The Power in Generative Power*

The temptation at this point is to treat generative power as the benign form of power and to organize the paper's normative content around promoting it. That treatment must be refused, and refusing it is the burden of this subsection.

Generative power is power in the full sense the paper has given the term, and it is the most consequential form of it. What it does is shape the space from which a party's future interpretations will be drawn, and a space, once shaped, conditions everything drawn from it. The student whose sense of what constitutes an interesting problem was formed by a supervisor will pose problems bearing that formation for years, in settings the supervisor will never see, and will pose them as their own. The partner who acquired a vocabulary for the relation from the other will describe the relation in that vocabulary, including when describing what is wrong with the other. A delegation whose category is adopted has shaped what subsequent parties, including parties not yet present, can say.

The formative asymmetry is greater than any exercised at the five channels, not less, and it is greater in proportion to its success. A correction is bounded: it settles one case and can be revisited. A reshaped space of proposal is unbounded and is characteristically invisible to the party it forms, since what has been made available appears as how the matter stands and not as someone's contribution. That a formation is generative does not make it innocent, and the party formed has no vantage from which to assess a formation they think with.

Claim 6. *Generative power is power. It acts on the space from which interpretations may be drawn rather than on the fate of a given interpretation, and its effects are accordingly*

more extensive, longer-lived, and less visible to the party they form than any exercise at the five channels. It is not the benign alternative to power and confers no innocence on the position exercising it.

8.3 *The Criterion of Reciprocal Capacity*

If generative power is not distinguished by innocence, it must be distinguished by something structural, and it is. The mark of a generative exercise is that it erodes the conditions on which the exercising position depends.

The position of the corrector depends on there being a party who requires correction, and each correction that settles a case without making the ground of assessment available renews that dependence. An exercise of generative power runs the other way: the teacher who makes available a range of proposals the student may draw from, and the grounds on which proposals are assessed, has produced a party who requires the teacher less. The exercise consumes its own condition. Where such exercise continues, the position of the teacher becomes progressively less necessary to the student's proposing, and the relation either terminates in the student's independence or continues on terms that must be constituted afresh.

This supplies the structural criterion, and it should be stated in a form that does not collapse into the earlier one. Loop closure, in §7, concerned what happens to a given exercise of revision. The present criterion concerns what happens to the exercising position across a run of exercises: whether its necessity is being renewed or consumed. The two are related, since a configuration whose revision loops close will tend to consume the necessity of the validating position, and they are not identical, since a position may make grounds available while remaining necessary for reasons of its own, and a position may be consumed by circumstances having nothing to do with revision. Absorption, in the sense of §7, stands to both as the wider notion: a configuration absorbs when the generativity issuing from a position returns to the common holdings, and the consumption of a position's necessity is one consequence such a return may have, though not the only one and not a condition of it.

The criterion is also what makes generative power costly, which is why it is not the default. A position maintains itself cheaply by settling cases; it expends itself by making available the grounds on which cases are settled. Nothing in the account suggests that the expending is more natural than the maintaining. The account suggests the reverse: self-maintenance is what a position does when nothing counteracts it, and generative exercise is what must be sustained against that tendency.

8.4 *The Weight of Formative Asymmetry*

Two consequences follow that the account should state rather than pass over, since both are uncomfortable and both are entailed.

The first concerns gratitude. A party formed by a generative exercise characteristically regards the formation as a gift and the former as a benefactor, and the regard is warranted, since something was made available that would not otherwise have been. It is also, structurally, the residue of an asymmetry so successful that it is no longer perceived as one. The student's sense that a supervisor opened the field is both true and the trace of a formation the student cannot assess from within. Nothing here suggests the gratitude is misplaced. What is suggested is that its presence is not evidence that the formation was benign, since the formation is precisely what would produce the standpoint from which it is evaluated.

The second concerns the limits of the reciprocal-capacity criterion. A position may erode its own necessity in one respect while establishing it in another: the supervisor who makes a student independent in method may thereby make the student dependent on a way of seeing what is worth attending to, and the second dependence is deeper and less legible than the first. The criterion is therefore to be applied with a specification of the respect in which necessity is being consumed, and a global judgment that a relation is generative is not available from it. What the criterion yields is local: in this respect, the position is expending itself; in that respect, it is not.

The account therefore does not deliver a class of relations certified as generative. It delivers a question that may be asked of a relation, in a specified respect, at a given time, asking whether the generativity issuing from a position is consuming or renewing that position's necessity, together with an expectation that the answer will differ across respects and change over time. This is less than a criterion of good relations, and it is what the analysis supports.

9 THE PRODUCTION OF KNOWERS

The account has treated a position's generativity as producing standards, occasions, and distinctions. It produces something further, and the further thing is the principal means by which an epistemic position maintains itself: it produces participants of determinate kinds. This section sets out that mechanism, which is what makes the four settings instances of one structure rather than parallel illustrations.

9.1 *The Formation of Epistemic Position*

A configuration of the five channels does not encounter parties already constituted as those who propose and those who assess. It constitutes them, by the accumulation of receptions. A party whose contributions are consistently received as material rather than as readings arrives at the next occasion as one who supplies material; a party whose objections are consistently received as instances of a disposition arrives as one who has that disposition. The constitution operates through the ordinary functioning of the channels, requires no intention, and proceeds without being declared.

Its efficacy lies in the party's own adaptation. A student who has learned the register in which proposals are received will hedge before proposing, and the hedging is competence and not compliance: it is a correct reading of the arrangement, and a proposal offered without it would be received worse. What the arrangement has produced is a party whose skilled participation reproduces it, and not a party who submits to it. This is why a configuration can persist without maintenance from the position it favours. The other party maintains it, competently, and at the level of what they perceive themselves to be rather than what they are told to do.

The mechanism accordingly answers a question left open in §7: how a direction of generation, once turned, sustains itself. It sustains itself because it produces parties for whom that direction is the shape of the relation, and the fifth channel closes the circuit, since attribution having recorded who contributed, each party arrives at the next proposal as what the record made them.

9.2 *The Student, the Junior Author, the Norm-Taker*

The mechanism may be observed in the settings the paper treats, and its instances are not analogies.

In education it produces the student who asks poorly. Such a student is not one who knows less; the knowledge deficit is real and is not what is at issue. What is at issue is that the student has been constituted as one whose questions are occasions for correction rather than contributions, and, having been so constituted, produces questions fitted to that reception, which are narrower, hedged, and aimed at securing a correction rather than opening a matter. An observer encountering the student at this stage will find the constitution confirmed by the evidence, since the evidence is what the constitution produces.

In academic production it produces the junior author who is an acknowledgment. The mechanism runs through attribution, and its effect is at proposal: a researcher whose contributions have been recorded as assistance arrives at the next collaboration as an assistant, is assigned work of the kind assistants are assigned, and produces contributions that are correctly described as assistance. The record and the reality converge, and the convergence is the mechanism working rather than evidence that the record was accurate.

In intimate relation it produces the party who misunderstands. An account of the relation that assigns to one party a characteristic failure of understanding will, if sustained, produce a party who checks their understanding before advancing it, defers on contested matters of shared history, and treats their own reading of an episode as the one requiring verification, which is what a party who misunderstands would do.

In international practice it produces the norm-taker. A state positioned as a recipient of standards drafted elsewhere develops the institutional apparatus of a recipient: offices for compliance and reporting rather than for drafting, expertise in demonstrating conformity

rather than in framing what conformity should consist of. Having developed these, it participates as a taker, and its participation is competent.

Fricker (2007) names a proximate phenomenon and the relation to it should be stated precisely. Fricker's testimonial injustice occurs when a hearer, owing to prejudice, accords a speaker less credibility than they deserve, and she treats the harm as a wrong done to a person in their capacity as a knower, including, in what she calls the harm's persistent effects, the possibility that a speaker so treated may lose confidence and cease to develop their epistemic capacities. The mechanism described here overlaps with that account and differs in its source. Fricker's cases turn on identity prejudice operating through a hearer's credibility judgments, and her diagnosis is correspondingly about stereotype and the ethics of the hearer. The production described here requires no prejudice and no identity marker: it follows from the configuration of the channels alone, and would occur between parties who bore no prejudice toward one another whatever. The two mechanisms may compound, and where they do the effects are severe; the present claim is that the structural mechanism operates in their absence.

9.3 *One Mechanism Across Four Domains*

The four instances share a form. In each, a configuration produces a party of a kind; the party's competent participation reproduces the configuration; and the reproduction furnishes evidence that the party is of that kind. What distinguishes the instances is the channel through which the production principally runs, whether reception at proposal in education, attribution in academic production, validation of a shared account in intimate relation, or admission and standard-setting in international practice, and not the mechanism.

This is the ground for the claim entered in §4 that these settings instantiate one structure. They are not similar in their content, their scale, their duration, or their formality. They coincide in that each is a coordination of interpretation among parties, that each configuration allocates capacities immediately, and that each configuration, sustained, produces participants whose participation sustains it.

Claim 7. *An epistemic position maintains itself principally by producing participants of determinate kinds. The production operates through the accumulated reception of contributions, requires no intention and no prejudice, and is completed by the produced party's own competent participation, which reproduces the configuration and furnishes the evidence that the party is as the configuration constituted them.*

The claim carries a consequence for what a remedy would have to be. A configuration that has produced its participants is not corrected by an adjustment at a single channel, since the participants will meet the adjustment as the parties the configuration made them. The student granted the floor will use it to request a correction, and the junior author granted authorship

will contribute what an assistant contributes. What such a configuration requires is treated next.

10 THE DESIGN OF GENERATIVE KNOWLEDGE STRUCTURES

The analysis carries consequences for the arrangement of settings in which knowledge is co-created, and this section draws them. It is constrained at the outset by §9: a configuration that has produced its participants is not corrected by an adjustment at a single channel, since the participants meet the adjustment as the parties the configuration made them. What follows is accordingly a small number of conditions and not a list of measures, each stated with the mechanism by which it works and the ways in which it is defeated.

A prior word on the standing of the whole. The account does not aim at the elimination of epistemic asymmetry, which would abolish the relations at issue rather than improve them, and it does not certify any arrangement as generative, for the reason given in §8: what the criteria yield are local judgments in specified respects. The conditions below are directions in which a configuration may be pressed, and each has costs that a designer must weigh against what it secures.

10.1 *Loop Closure and Design*

The first condition follows from §7: an exercise of revision should alter the conditions under which the next interpretation is generated. What makes this a design condition rather than an exhortation is that the alteration can be built into an arrangement rather than left to the disposition of the party who receives the challenge.

The general mechanism is that the grounds of an assessment travel with it. Where a validation is accompanied by the standard on which it rests, stated so that the other party can thereafter invoke it, the exercise has added to the common holdings; where it is delivered as a judgment, it has renewed the circumstance in which judgments are delivered. This is the difference, in teaching, between a correction and a correction whose ground the student may thereafter apply without the teacher; in review, between a rejection and a rejection whose criteria constrain the reviewer's next assessment as much as they explain this one; in an intimate relation, between settling what happened and articulating what would count as evidence about what happened, which either party may subsequently produce.

Three defeats of the condition should be named, since each is common and each preserves its appearance. The first is the standard stated so that it cannot be applied by anyone else, resting on a discernment the assessing party possesses and does not transfer. The second is the concession granted on a particular while the standing to challenge is left untouched, which §7 noted leaves the loop open. The third is the recorded objection: an arrangement that logs challenges without any provision for their bearing on subsequent assessment converts revision

into documentation, and the log becomes evidence that revision is available.

10.2 The Governance of Exit Cost

The second condition follows from §6. Since a high cost of exit subsidises whatever asymmetry a configuration contains, the deliberate reduction of exit cost is among the most effective interventions available, and it operates without requiring anything of the parties.

Its instruments are familiar and their effect is now specifiable. Multiple supervisors, portable funding, external examiners, the right to seek a second opinion, employment not tied to a single sponsor, and forums in which a claim may be pursued outside the relation that generated it all reduce the price of departure. Each thereby withdraws the subsidy: a position that could formerly persist without generating must now generate something that holds the party, or lose them. The condition is unusual among those given here in that it works upon the least tractable cases, since it does not require the favoured position's cooperation.

Two limits bound it. Where the relation is one whose value depends on its not being readily exited, as formative relations characteristically are and intimate ones definitionally are, reducing exit cost past a point degrades what the relation is for, and the condition is not to be pursued without regard to that. And the international case of §6 shows that some frameworks have no outside, so that exit cost cannot be reduced at all. Where it cannot, the whole burden falls on loop closure, which is the substantive reason the criterion of §7 matters most precisely where this condition is unavailable.

10.3 The Revisability of Attribution

The third condition follows from the circuit identified in §5 and §9. Attribution conditions the register at the next proposal, and a record once made becomes the ground on which the next contribution is assigned. An arrangement in which attribution is settled once and thereafter fixed is therefore not merely unjust in the ordinary sense; it is the mechanism by which a produced party is held in production.

What the condition requires is that the record be alterable in the light of what a contribution turns out to have been. Its instruments include contribution statements that specify what was done rather than assigning ranks, provision for the reassessment of contributions when their significance becomes clear later, and, in the settings that lack formal attribution, the practice of naming whose suggestion a decision followed. In domestic and diplomatic settings this last is nearly the whole of what is available, and it is not trivial: a household or a delegation in which the origin of an adopted proposal is regularly stated maintains a record that a party may draw on at the next occasion.

10.4 *Curricula, Review Processes, Households, Treaty Regimes*

The conditions bear differently on the settings the paper treats, and the differences are instructive as to what design can reach.

A *curriculum* is unusual in that its designer controls the configuration in advance and the parties arrive unproduced. Loop closure can be built into assessment by requiring that criteria be stated in a form students may apply to one another's work and to the assessor's; attribution can be made explicit where collaborative work is undertaken. The characteristic defeat is the criterion that is published and applied by discernment.

A *review process* has the most developed instruments and the highest exit cost in specialised fields, where the set of competent reviewers is small. Loop closure is served by criteria that bind the reviewer's subsequent assessments, by published reports, and by the availability of an appeal that reaches someone other than the original assessor; the characteristic defeat is the appeal returned to the party appealed against.

A *household* has no formal instruments and the highest stakes at validation, since what is validated is an account of the parties themselves. The available conditions are the articulation of what would count as evidence, which makes assessment something either party may perform, and the naming of whose suggestion was adopted. The characteristic defeat is the concession on the particular that leaves the account untouched.

A *treaty regime* has exit costs that are often irreducible and sometimes undefined, which throws the burden onto loop closure and attribution. What is available is the reopening of settled provisions on a schedule rather than on the initiative of a party who would bear the cost of raising them, and the recording of which delegation's proposal a provision followed. The characteristic defeat is the review conference whose outcome cannot alter the terms under which the next review is conducted.

Claim 8. *Three conditions bear on whether a co-creative configuration continues to absorb the asymmetry it generates: that the grounds of an assessment travel with it, so that an exercise of revision alters the conditions of the next interpretation; that the cost of exit be reduced where the relation permits, since a high cost subsidises whatever asymmetry the configuration contains; and that attribution remain alterable, since the record conditions the register at the next proposal. None certifies a configuration as generative, and each is defeated by measures that preserve its appearance.*

The last part of the claim is the one to be insisted on. Each condition has a form that satisfies its description and defeats its purpose: the standard that cannot be applied by another, the appeal returned to the party appealed against, the log of objections with no provision for their effect. An arrangement exhibiting the instruments is not thereby shown to be generative, and the criteria of §§7–8 are what the instruments are to be assessed against, rather than the reverse.

11 LIMITS AND OPEN WORK

The account rests on claims that could be wrong, and setting them out as such is part of setting it down. This section states what the paper has argued, what it would take for the argument to fail, and what the argument does not reach.

11.1 *What the Account Claims*

The paper has proposed that knowledge is a relational structure through which interpretation is coordinated, that every such structure generates asymmetry, and that upon an asymmetry the tendency of a position to maintain itself is generative, producing the standards, occasions, and participants that constitute the conditions of its own continuation. Power in knowledge is this self-maintaining generativity, which places it within generation rather than opposed to it, and makes it costly, lapsing, and defeasible rather than possessed.

From this three analytical instruments follow. The five channels of §5 specify where an asymmetry maintains itself, derived from the course an interpretation must undergo. The cost of exit of §6 specifies the price at which it does so. The criterion of loop closure of §7 distinguishes the direction in which a position's generativity runs, and the criterion of reciprocal capacity of §8 distinguishes whether an exercise consumes or renews the position's necessity. The production of knowers in §9 is the mechanism by which a direction, once turned, sustains itself.

11.2 *What Would Defeat the Account*

Several things would. If the critical tradition already answers the question posed here, and the analysis of regimes, fields, or networks does descend to the direction of generation within a relation whose configuration is unchanged, then §3 has misread it and the paper has no ground. If the enumeration of five channels admits a sixth that answers to a stage in the life of an interpretation, the derivation fails and the enumeration reverts to the ad hoc lists it was meant to improve on. If cases can be produced in which a relation's revision loops demonstrably close and the relation nonetheless degrades, or in which they demonstrably open and it does not, the central criterion is not doing the work claimed for it.

The last of these is the most consequential and the least tested, and the paper's principal weakness lies there. The criterion of loop closure was said in §7 to be checkable in principle, and no procedure for checking it was supplied. What would be required is a specification of what counts as an alteration in the conditions of the next interpretation, robust enough that two observers of the same sequence of exchanges would classify it alike. Until that exists, the criterion organizes description without licensing measurement, and the applications in §10 rest on it more heavily than it can presently bear.

11.3 *What the Account Does Not Reach*

The illustrative cases throughout are constructed rather than observed. They were chosen for their structural clarity and they carry the weight of illustration only; none is evidence that the configurations described are common, and the paper offers no estimate of how often relations of the kinds treated exhibit them. Fieldwork in any of the four settings could establish that the mechanism, though coherent, is rare.

The four settings were selected for their dissimilarity, and the argument that they instantiate one structure is correspondingly a structural argument rather than an empirical finding. It would be strengthened by the demonstration that the channels can be specified operationally in each, and embarrassed by settings in which the five cannot be identified.

The treatment of the international case is the most exposed. Exit for a state is not the decision of a unitary agent, the costs of departure fall unevenly on domestic constituencies, and the transfer of a vocabulary developed for interpersonal relations to collective actors requires justification the paper has not supplied beyond the structural analogy. The case is offered as an instance of the variable and not as a contribution to the theory of international politics.

The account is descriptive in a further respect that limits what §10 can claim. Having refused to certify configurations as generative, and having conceded in §8 that the criteria yield only local judgments in specified respects, the paper cannot say of any actual arrangement that it is well-ordered. What it can say is where to look and what would count as the relevant evidence.

11.4 *Place Within the Programme*

The line of analysis belongs to a broader effort to treat being, value, and governance as generated in and through relation. The parent framework, generative relational being, concerns how relation generates being; a companion concern, generative relational governance, treats how a generated relation is governed once it exists. The present paper occupies the intersection: knowledge is the medium in which the parties to a relation coordinate their interpretations, and the configuration of that medium is at once what the relation generates and what governs its further generation. That the same structure appears in the account of relational degradation developed elsewhere in the programme, where a distinction collapses and a symbol executes the collapse, is not incidental, and the correspondence between the closure of a revision loop and the mechanisms described there is work this paper leaves to be done properly.

11.5 *Further Work*

Three lines follow. The first is the operationalisation of loop closure, without which the account remains a way of describing cases rather than a means of assessing them. The second is empirical work in a single setting, of which the review process is the most tractable, since

its channels are documented and its exercises of revision leave records. The third is the relation between the two criteria the paper offers, loop closure and reciprocal capacity, which were distinguished in §8 and whose connection was there left as a tendency rather than established. A formal treatment of a configuration and its trajectories would bear on this, and is not attempted here.

A note on method. No formal apparatus has been used to state what prose states plainly here, and the abstention is deliberate. A configuration written as a vector of weighted capacities would decorate the argument without deriving anything from it, and would borrow a rigor the argument has not earned. The mechanisms admit two honest presentations: clear prose, or a genuine connection to the language of dynamical systems, in which a configuration would answer to a point in a space of arrangements, a closed revision loop to a perturbation that displaces it, an open one to a perturbation the arrangement absorbs without displacement, and a produced knower to a fixed point of the configuration's own dynamics. The second is not attempted here. What is claimed is stated in the first.

REFERENCES

- Bourdieu, Pierre (1975). The Specificity of the Scientific Field and the Social Conditions of the Progress of Reason. *Social Science Information*, 14(6), 19–47.
- Bourdieu, Pierre (1988). *Homo Academicus*. Trans. Peter Collier. Stanford: Stanford University Press. [French orig. 1984.]
- Callon, Michel (1986). Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay. In John Law (ed.), *Power, Action and Belief: A New Sociology of Knowledge?* London: Routledge, 196–233.
- Finnemore, Martha, and Kathryn Sikkink (1998). International Norm Dynamics and Political Change. *International Organization*, 52(4), 887–917.
- Fricker, Miranda (2007). *Epistemic Injustice: Power and the Ethics of Knowing*. Oxford: Oxford University Press.
- Foucault, Michel (1972). *The Archaeology of Knowledge*. Trans. A. M. Sheridan Smith. New York: Pantheon Books. [French orig. 1969.]
- Foucault, Michel (1977). *Discipline and Punish: The Birth of the Prison*. Trans. Alan Sheridan. New York: Pantheon Books. [French orig. 1975.]
- Foucault, Michel (1978). *The History of Sexuality, Volume I: An Introduction*. Trans. Robert Hurley. New York: Pantheon Books. [French orig. 1976.]
- Freire, Paulo (1970). *Pedagogy of the Oppressed*. Trans. Myra Bergman Ramos. New York: Herder and Herder.

- Gettier, Edmund L. (1963). Is Justified True Belief Knowledge? *Analysis*, 23(6), 121–123.
- Hirschman, Albert O. (1970). *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*. Cambridge, MA: Harvard University Press.
- Goldman, Alvin I. (1967). A Causal Theory of Knowing. *The Journal of Philosophy*, 64(12), 357–372.
- Goldman, Alvin I. (1999). *Knowledge in a Social World*. Oxford: Oxford University Press.
- Lacan, Jacques (1977). *The Four Fundamental Concepts of Psycho-Analysis*. Ed. Jacques-Alain Miller, trans. Alan Sheridan. London: Hogarth Press.
- Latour, Bruno (1986). The Powers of Association. In John Law (ed.), *Power, Action and Belief: A New Sociology of Knowledge?* London: Routledge, 264–280.
- Latour, Bruno (1987). *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, MA: Harvard University Press.
- Nietzsche, Friedrich (1966). *Beyond Good and Evil: Prelude to a Philosophy of the Future*. Trans. Walter Kaufmann. New York: Vintage Books. [German orig. 1886.]
- Wendt, Alexander (1999). *Social Theory of International Politics*. Cambridge: Cambridge University Press.