

Rethinking *Fa Bu Qing Chuan* (“The Dharma Should Not Be Transmitted Lightly”): Knowledge Propagation Ethics and Implications for Open Knowledge Platforms

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Abstract

A doctrine of restricted transmission is stated across several traditions and is compactly formulated in the eight-character maxim *fa bu qing chuan, dao bu jian mai*, holding that the dharma is not transmitted lightly and the way is not sold cheaply. The doctrine appears to stand in opposition to the commitments on which open knowledge platforms, open source practice and the open scholarly record are built, and the opposition is ordinarily settled by dismissing one side. This paper asks what the doctrine asserts, what in it survives examination, who is competent to determine whether a transmission should occur, and which requirements on a transmitter are compatible with open knowledge practice.

Transmission is treated as an operation on a system already in some state, and the doctrine’s single notion of readiness is separated into representational, dynamical and relational conditions, which differ in who is able to remedy their failure. The readiness assessment is then found to be administered by the party a finding of unreadiness relieves, filtered in its common implementation by a capacity uncorrelated with the disposition it is meant to detect, and insulated from the objection of the party it concerns. A thesis about knowledge whose acquisition consists in a reorganisation of the receiver is retained, and separated from the claim, common to the tradition and unsupported by it, that the reorganisation requires the receiver’s suffering.

The position advanced replaces the judgement of readiness with three requirements on the transmitter’s own conduct: an account of what a transmission affords, of the parties a chosen setting distributes it to, and of the reception failures a chosen form invites; continued attention to what follows; and retention of the means of revising the terms. A justificatory burden is allocated where effects are substantially irreversible, symmetrically across withholding and transmitting. The rights a transmitter retains are treated on a distinction between dominion and custody, so that a commitment against possessing what one has produced constrains authority over its future and leaves intact the standing required to act against exploitation; and the paper states plainly that no course available, including transmitting nothing, supplies a guarantee against misuse. The harms at issue are extended to those arising under unbounded propagation, among them occupation of a subject by an early artifact whose terms obstruct its own repair, and licensing, staged release and administered disclosure intervals are examined against them. The paper advances no further candidate for a single correct account of when knowledge may be passed on, offering a common language in which a doctrine formed under one set of conditions and instruments developed under another may be compared; and it states its own terms together with the conditions under which they would be shown to be mistaken.

Keywords: knowledge propagation; epistemic paternalism; transmission ethics; open knowledge platforms; licence design; tacit knowledge; generative relational theory

Notices

Status. This is a working draft circulated for discussion. It is a preliminary discussion paper and is not a finished statement of its author's position. Sections and statement numbers are subject to change.

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Statement on the use of language models. Drafting, literature search and argumentative criticism for this paper were conducted in dialogue with large language models, specifically Claude (Anthropic) and ChatGPT (OpenAI). The claims, the structure, the selection of material and the position taken are the author's. References cited have been checked; any that remain unverified are marked in the text.

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Part I. The Doctrine and Its Formation

1 Introduction

A person who holds knowledge and is in a position to pass it on faces a question that arises before any question about the content: whether to pass it on at all, to whom, in what form, and on what terms. Several traditions have answered that question with a doctrine of restraint. The Chinese maxim *fa bu qing chuan, dao bu jian mai* (法不轻传, 道不贱卖), rendered here as *the dharma is not transmitted lightly, the way is not sold cheaply*, states the doctrine in its most compact form. Chinese formulations are given once in the original with a translation and are referred to thereafter by the translation alone. Its constituent claims are older and broader than the maxim. Confucius declines to instruct a student who has yet to reach the condition of struggling toward an insight; the *Daodejing* observes that the lowest sort of person laughs at the way when he hears it; Buddhist practice surrounds the giving of teaching with conditions on request, receptivity and occasion; and in the Greek tradition Plato has Socrates object that a written text travels indiscriminately, reaching those it can help and those it cannot, and standing defenceless before either.

The doctrine has an uncomfortable structure. It makes the permissibility of transmission depend on an assessment of the receiver, and it assigns that assessment to the holder. Every historical arrangement that restricted access to knowledge along lines of birth, station and membership has had such an assessment available to it, and has used it. A contemporary reader therefore encounters the doctrine with a well-founded suspicion, and the suspicion is reinforced by the observation that the doctrine's counsel is congenial to the party who holds the knowledge, since it relieves him of an effort and confirms his position at once.

That suspicion has produced a countervailing position which is now institutionally dominant in the domains where knowledge is produced and circulated at scale. The definition of open source software forbids discrimination against fields of endeavour; the first of the free software freedoms is the freedom to run a program for any purpose whatever; the open access movement treats restriction as the condition to be overcome. The position is embodied in the infrastructure such domains have built: preprint servers and open repositories that accept a deposit and serve it to any party who asks, collaboratively edited reference works, code and data hosting open to any reader, and the open courseware and educational collections that accompany them. In each of these a body of material is placed where anyone may take it, with no assessment of the taker at any point in the arrangement. The commitments underlying them were adopted with reasons, and the reasons address the doctrine's weaknesses directly: a condition on purpose requires someone to determine purpose, determination requires an authority, and an authority over purpose is the thing such arrangements were designed to prevent.

Between a doctrine that cannot say who administers its criterion and a practice that refuses to have a criterion, a range of intermediate arrangements has grown up without a unifying account. Security research operates a régime of coordinated disclosure in which a vulnerability is communicated first to one party, held for a fixed interval, and published at the end of it. Model releases in machine learning are staged, gated, or mediated by an interface that

constrains what may be done with what is released. Research of concern in the life sciences is governed by review at the point of publication as well as at the point of funding. Parties whose own practices produced a body of material attach terms to its recording and use, and the assertion is made by parties standing in the weaker position with respect to those who would take it up. Each of these arrangements makes transmission conditional. None of them rests on an assessment of whether the receiver is worthy.

The apparent conflict between the two is the occasion of this paper. A doctrine of long standing holds that transmission is to be withheld from those unprepared for it, and an author who takes it seriously has a reason to deposit nothing; the platforms on which knowledge is now published are built on the contrary commitment, and an author who uses them has accepted an arrangement in which every determination the doctrine calls for is unavailable to him. The two positions are ordinarily held apart by dismissing one of them, with the doctrine treated as a residue of guild secrecy and the open arrangements treated as an indifference to consequences. A party who finds something in each is left with no account of how they stand to one another, and that is the position this paper attempts to improve. Four questions organise the enquiry conducted here. What does the doctrine of restricted transmission actually assert, and what in it survives examination? Who is competent to determine whether a particular transmission should occur, and by what criterion? What requirements on a transmitter can be stated that are compatible with the commitments of open knowledge practice? And how far do the instruments that practice has already produced implement such requirements without having been designed to?

This paper takes the doctrine of restricted transmission seriously enough to reconstruct it, and then separates the part of it that survives examination from the part that fails. Its object is knowledge of a particular kind. Where what is transmitted is a discrete fact, the questions raised here are largely questions about consequences, and existing treatments of information hazards address them. The interesting case is the transmission of a framework: an organised way of seeing a domain, which reorganises the person who acquires it and whose power in his hands depends on that reorganisation. The traditions cited above are concerned with exactly this case, and the maxim uses the words *fa* and *dao* for what is transmitted, both of which name something closer to a framework than to a fact.

The reconstruction turns on treating transmission as an operation performed on a system that is already in some state, and whose response to the operation depends on that state. So described, the doctrine's core observation is correct, and it is unavailable from the content of what is transmitted alone: the same material, delivered to two receivers, produces two different effects, and one of those effects may leave the receiver worse placed than silence would have left him. The doctrine then runs together three distinct conditions under which reception fails. The first is representational, concerning whether the receiver possesses an apparatus adequate to interpret what arrives. The second is dynamical, concerning the receiver's position relative to a boundary across which his own arrangements would have to reorganise. The third is relational, concerning whether a channel exists at all. These three differ in a respect the doctrine leaves unmarked: they differ in who is able to remedy the failure. The representational failure is remediable by the labour of the transmitter, which is to say that it generates

an obligation for him. The relational failure is remediable jointly and over time. The dynamical failure is remediable by nobody without becoming the destabilising intervention that the doctrine exists to warn against. A transmitter who has understood this much has acquired a duty and lost an excuse.

The paper then examines the readiness assessment on its own account and finds three defects. It is administered by the party whom a finding of unreadiness relieves. Where it operates through an encoding that the prepared reader penetrates and others do not, it filters by interpretive capacity, and interpretive capacity is uncorrelated with the disposition the filter is supposed to detect, so that the encoding selects for precisely the competence that makes misuse effective. And it assigns the receiver a role in which his disagreement counts as evidence of his unripeness, which removes him from the class of parties able to contradict the assessment. A criterion with those three properties will produce exclusion whatever the intentions of the person applying it, and its historical record is what one would predict.

What survives is a thesis about the acquisition of frameworks. For a class of knowledge, possession consists in a reorganisation of the possessor, and the artifact that encodes it underdetermines the competence, so that supplying the artifact leaves the knowledge untransmitted. This thesis has substantial independent support in the study of tacit knowledge and of skill, and it is the correct reading of the tradition's insistence that the journey and the destination cannot be exchanged for one another. It is defended here without the further claim, made throughout the tradition and unsupported by anything in it, that the reorganisation requires the receiver to suffer. Effortful engagement over time is required. Adversity is a distinct matter, and a doctrine treating adversity as necessary to growth licenses indifference to adversity of every kind, which is a heavy price for a claim that was never established.

The position the paper reaches is stated in three requirements on the transmitter and none on the receiver. Within the range of what is foreseeable to him, a transmitter owes an account of what follows from transmitting this content, in this manner, to this party. After the act, he owes continued attention to what in fact follows, since foreseeability is bounded and the bound is discovered by looking. And he owes the retention of whatever structural means remain for revising the terms on which transmission occurred, since a transmission whose terms remain revisable is one whose consequences remain governable. Foreseeability, vigilance and revisability displace the judgement of readiness. The displacement is the paper's central move, and its merit is that it converts an unverifiable claim about another person into a set of verifiable claims about one's own conduct.

Two features of this position connect it to a wider framework and are developed in the closing part. The first is historical continuity: an ethics of transmission is a historically situated arrangement with an origin and a trajectory, and its authority derives from that trajectory and from the practices that carry it. The second is structural revisability: an arrangement of this kind holds its own terms open to correction, and a norm of transmission exempting itself from the revisability it demands would be defective by its own standard. The paper accordingly states the conditions under which its own criterion would be shown to have been misapplied.

Open knowledge platforms and originating parties give the position its test. A licence is a transmission condition made explicit and made enforceable, and the history of licence design

is a record of attempts to attach terms to knowledge after it has left the holder's control. The design space is genuinely constrained: terms restricting purpose collide with the definitions of openness and are difficult to enforce; terms restricting nothing retain no means of revision; and publication is close to irreversible, so that the choice is made once. The paper examines what open licensing, ethical licensing, staged and structured release, coordinated disclosure, and the assertion by an originating party of control over material constitutive of its own practices have each been able to achieve, and identifies coordinated disclosure as the arrangement coming closest to implementing the position, since it makes transmission conditional on an interval and a procedure while requiring an assessment of nobody's worthiness.

The paper's contributions may be stated compactly. It reconstructs the doctrine in a form that grants its observations and locates its error at a single identifiable step. It resolves the doctrine's notion of readiness into three conditions with different remedies, which converts a licence to withdraw into an obligation to work in the case that arises most often. It identifies three structural defects in the readiness assessment, holding whatever the intentions of the party applying it. It corrects the tradition's account of the hostility that free transmission attracts, locating that hostility in the structure of a benefit admitting no return and identifying three alterations of the structure that dissolve it without withholding anything. It separates the provision of access from advocacy, which reconciles the doctrine's defensible content with the commitments recorded above. It states a position in three requirements addressed to the transmitter's own conduct, with an allocation of the justificatory burden that applies symmetrically to withholding and to transmitting. It examines licensing, staged release, administered disclosure intervals and reciprocal conditions, identifying the property shared by the arrangements that have proved workable and the point at which others reinstate the assessment they were introduced to avoid. And it identifies the doctrine, together with the position replacing it, as a self-legislation of the transmitter, states the objection that follows from that character, and separates the components of the position that may be carried by platform rules, professional standards, national regulation and international arrangements from the component that remains with the individual.

The ambition of the paper is bounded, and the bound is stated here because it governs how the position should be read. The paper advances no further candidate for a single correct account of when knowledge may be passed on, and it treats the doctrine it examines and the practice that opposes that doctrine as two bodies of accumulated experience, each formed under conditions that shaped it and each carrying something the other lacks. What it offers is a common language in which the two may be brought into contact, compared on the same terms, and assessed by criteria that apply to both. A position of that kind is a stage in a continuing enquiry and holds its own terms open: §19 states the conditions under which the position advanced here would be shown to be mistaken, and the conditions under which knowledge is transmitted have altered before and will alter again, so that the requirements stated here are expected to require revision as they do.

The paper is organised in seven parts. Part I states the received doctrine, identifies the structure common to its formulations, traces its textual formation in the Confucian, Daoist, Buddhist and Greek sources, and situates the enquiry among existing treatments of epistemic

paternalism, information hazards and epistemic injustice. Part II develops the perturbative account of transmission and the three conditions of reception. Part III examines the readiness judgement and its administration, and separates the provision of access from the act of pressing knowledge upon a party who has not sought it. Part IV defends the thesis about frameworks and the reorganised subject, and rejects the necessity of hardship. Part V extends the analysis from persons to institutions, where the costs of restraint fall on third parties and the analysis therefore changes. Part VI examines the instruments by which transmission conditions are designed. Part VII states the position and its scope.

Four restrictions apply throughout. The paper makes no claim about the truth of the religious and philosophical doctrines from which the maxim descends, and treats their formulations as evidence about how transmission traditions encoded a problem. It offers no procedure for deciding particular cases, and the grounds for declining to offer one are given in Part VII. It addresses the transmission of frameworks, and its conclusions carry over to discrete technical information only in part. And it takes no position on the disputed empirical question of how far the arrangements examined in Part VI succeed in their own terms, relying on their design and their stated rationales in place of an assessment of their effects.

2 The Received Doctrine and Its Common Structure

This section states the doctrine of restricted transmission in the form in which it is received, before any assessment of it. Its objective is to fix what the doctrine asserts, so that the examination in later sections has a determinate object. The section proceeds in four steps: it presents the maxim and the formulations that accompany it; it identifies what the received vocabulary takes transmission to be about; it extracts the conditions the doctrine places on reception; and it identifies the parties the doctrine holds restraint to protect. The method is textual and reconstructive, and the assessment of whether the doctrine's claims hold is deferred to Parts II and III.

2.1 The Maxim and Its Companion Formulations

The eight characters of *fa bu qing chuan, dao bu jian mai*, *the dharma is not transmitted lightly, the way is not sold cheaply*, assert two prohibitions with a common form. Transmission of the *fa* is prohibited when it is light, and sale of the *dao* is prohibited when it is cheap. The prohibitions attach to a manner of transmission and to a price, and they leave the content untouched: the same material may be transmitted permissibly in another manner or at another price. In the fuller proverbial form the two are joined by two more, 师不顺路, 医不叩门, *the teacher does not offer himself along the road, the physician does not knock at the door*; and the four together describe a common posture in which the party holding a competence waits to be approached. The couplet is commonly continued by two further lines, 千金不传无义子, 万财不渡忘恩人, *a thousand pieces of gold do not purchase transmission to an unrighteous son, and ten thousand in wealth do not deliver one who forgets a kindness*, which attach the doctrine to the recipient's character.

Several companion formulations state the same posture with a different emphasis. The formula 不度无缘之人, *those without connection are not delivered*, holds that deliverance is with-

held from parties lacking the relation that would carry it, and it is glossed by a proverbial couplet, 天雨虽宽，不润无根之草；佛法无边，难度无缘之人, *though the rain is wide it does not moisten rootless grass, and though the dharma is boundless those without connection are hard to deliver*. A second formula, 观机逗教, *observing the occasion and meeting it with teaching*, describes the giving of instruction as timed to a condition that is watched for and awaited. A third, 因材施教, *instruction fitted to the material*, holds that teaching is adapted to the party it addresses. These formulations differ in what they take the limiting factor to be, and the difference is developed in §5.

Definition 2.1. (Transmission). An act by which a party in possession of a body of knowledge makes it available to a second party in a form the second party may take up.

Two features of this definition are deliberate. It says nothing about whether the second party does take it up, so that transmission and acquisition are separated from the outset. And it makes availability the operative notion, which allows the distinction developed in §9 between making available and pressing upon.

Definition 2.2. (The doctrine of restricted transmission). The position that transmission is permissible only where conditions on the receiver, on the occasion, or on the relation between the parties are satisfied, and that the party in possession is responsible for determining whether they are.

The second clause carries most of the weight. A position holding merely that transmission sometimes goes badly is uncontroversial. The doctrine of restricted transmission adds that the determination is the holder's to make and that it is prior to the act.

2.2 The Object of Transmission in the Received Vocabulary

The words the tradition uses for what is transmitted are 法 (*fa*) and 道 (*dao*), and neither denotes a proposition. *Fa* names a body of teaching together with the practice that carries it, and *dao* names a way of proceeding that a person may come to embody. The Buddhist and Daoist sources are explicit that possession of the words is compatible with the absence of the thing, and the Confucian source assumes throughout that instruction aims at a formed person. The maxim is therefore stated about frameworks in the sense given in §1, and its extension to discrete technical information is a later and looser use.

This observation constrains the reading of the maxim's second clause. A prohibition on selling cheaply is puzzling where the object is a proposition, since a proposition is unaffected by the price paid for it. The prohibition becomes intelligible where the object is a framework whose acquisition requires sustained work from the receiver, since the price then functions as a proxy for a commitment the receiver has yet to make. Whether the proxy is a good one is examined in §9.

2.3 The Conditions on Reception in the Received Doctrine

Across the formulations, three conditions recur, and the tradition states them together under the heading of the three cases in which deliverance is withheld.

The first condition concerns the receiver's capacity to receive what arrives. In the tradition's own vocabulary the receiver lacks a receptor for what is offered, and the material

reaches him as an affront or as nonsense. The Daoist formulation supplies the sharpest version: the lowest sort of person laughs when he hears the way, and the tradition adds that the way would be insufficient were he to do otherwise.

The second condition concerns timing. The tradition holds that a receiver whose present arrangements continue to serve him has no motive to reorganise them, that difficulty is what dislodges those arrangements, and that a teaching offered before the difficulty has done its work is offered too early. The Confucian formulation states the positive form of this condition: instruction begins when the student has reached the point of straining toward what he cannot yet articulate.

The third condition concerns the relation between the parties. The tradition holds that transmission travels along a connection, that trust constitutes the connection, and that in the absence of one the transmission fails to penetrate however forcefully it is delivered.

Claim 2.3. (The common structure of the received formulations). The formulations of the doctrine surveyed here condition transmission on the receiver's capacity to interpret, on the receiver's position in his own trajectory, and on the existence of a relation between the parties; and they treat these three as instances of a single notion of readiness, assessed by the holder before the act.

The treatment of the three as one notion is the feature that later sections dispute. The three conditions concern different objects, they fail for different reasons, and they differ in who is placed to remedy them.

2.4 The Beneficiaries of Restraint in the Received Doctrine

This subsection identifies the parties the received doctrine holds restraint to benefit. The doctrine offers two grounds for withholding, and the two are addressed to different parties: the first to the receiver, the second to the transmitter.

The first ground concerns the receiver. The tradition holds that a competence acquired by a person whose formation is incomplete amplifies what is already in him, so that premature acquisition harms the acquirer. The image the tradition uses is the weapon placed in the hands of a child or a robber, and the formula 德不配位, *virtue unmatched to position*, states the general form, holding that a position unmatched by the formation appropriate to it brings harm to its occupant.

The second ground concerns the transmitter. The tradition holds that what is done with a transmitted teaching returns along the channel through which it travelled, so that the transmitter acquires a portion of what his recipient does. This ground is stated in the vocabulary of karmic consequence, and its secular reconstruction in terms of attribution is given in §18.

2.5 The Harms the Doctrine Is Addressed To

This subsection assembles the harms that the doctrine of restricted transmission treats itself as answering, since Part VI assesses the available instruments against them and requires a determinate list. The two grounds set out in the preceding subsection identify two harms, and the tradition's fuller discussions add a third which its formulations state less clearly.

The first harm falls on the transmitter and consists in the reaction his transmission attracts.

The tradition reports jealousy, aversion, incomprehension, and the treatment of the transmitter as a disturbance, and it reports these as the ordinary response to an unsolicited benefit, with an aberration nowhere suggested. The second falls on third parties and consists in the use of what was transmitted by a recipient whose purposes are hostile, for advantage over others or for harm. The third falls on the material itself, and consists in its being received without being taken up, so that the transmission is expended without effect.

The three are distinct in their bearers, in their mechanisms, and in the instruments that address them, and Part VI examines each against the arrangements now available. They are recorded here because the doctrine's counsel is offered as a response to all three at once, and a single response to three harms with different structures is unlikely to fit any of them well.

Claim 2.4. (The two protections claimed for restraint). The received doctrine holds that restraint protects the receiver from a competence his formation does not support, and protects the transmitter from a share in what his recipient does with what he receives.

The second protection is the more interesting of the two, since it concedes that transmission establishes a continuing relation between transmitter and consequence. A doctrine making that concession has already accepted the premise from which Part VII derives a position incompatible with the doctrine's own conclusion.

3 The Textual and Historical Formation of the Doctrine

This section traces the formation of the doctrine stated in §2, with two objectives. The first is to establish what the constituent claims are in their earliest available formulations, so that the paper engages the tradition at its strongest and avoids arguing against a late proverbial digest. The second is to establish that the doctrine is not the property of a single tradition, since a claim recurring across traditions with different metaphysics is likely to be tracking something in the practice of transmission. The section treats the Confucian, Daoist and Buddhist formations, then the proverbial compilation in which the eight-character form appears, then the Greek formation and the concealment practices of craft and esoteric traditions, and closes by identifying what the formations share and what they leave unaddressed. The method is philological and comparative, and the material is treated throughout as evidence about how transmission traditions encoded a problem, with no claim entered about the doctrines themselves.

3.1 The Confucian Formation

The Confucian source states a condition on the occasion of instruction. *Analects* 7.8 reads 不愤不启，不悱不发，举一隅不以三隅反，则不复也, *where he is not driven to know I do not open the matter, where he is not struggling to speak I do not supply the words, and where a student given one corner does not return with the other three I do not repeat the lesson.* The passage places the initiative with the learner and makes the teacher's contribution conditional on a prior exertion.

A second passage, *Analects* 6.21, states a condition on the level of the material: 中人以上，可以语上也；中人以下，不可以语上也, *to those above the middle sort the higher things may be spoken of, and to those below the middle sort they may not.* This is the sharpest classical statement

of the readiness condition and also the most exposed, since it sorts persons where the earlier passage sorted occasions, and it offers no account of who conducts the sorting or on what evidence.

The related principle *instruction fitted to the material* (因材施教) is attributed to Confucian pedagogy and is formulated in that four-character shape considerably later, in the commentarial and pedagogical literature, with the doctrine itself standing on the two passages above. Read as a claim about method, it is a commonplace of teaching. Read as a claim about permission, it becomes the doctrine under examination. The two readings are distinguished throughout this paper, and the distinction turns out to organise a good deal of the argument.

3.2 The Daoist Formation

Daodejing 41 states a threefold reception: 上士闻道，勤而行之；中士闻道，若存若亡；下士闻道，大笑之。不笑不足以为道, *the highest sort hears the way and works at it; the middling sort hears it and half keeps it, half loses it; the lowest sort hears it and laughs aloud, and without that laughter it would be insufficient as the way.* This formulation differs from the Confucian one in an important respect. It offers no counsel to withhold. It describes a distribution of responses and treats the hostile response as a sign of the material's depth, which leaves the question of circulation untouched.

The withholding counsel enters the Daoist stream through the later esoteric and alchemical literature, where transmission of technique is restricted by lineage, ordeal and oath. The distance between *Daodejing* 41 and that literature is worth marking, since it shows the readiness observation and the withholding prescription to be separable, which is a claim this paper defends in general form.

3.3 The Buddhist Formation

The Buddhist material contributes three elements. The first is the requirement of request. The canonical convention that teaching follows an entreaty, repeated in some accounts three times, makes the receiver's initiative a formal precondition, and the narrative of Huike standing in the snow and severing his arm to obtain instruction from Bodhidharma is the tradition's most extreme expression of it. The second is *observing the occasion and meeting it with teaching*, the timing of instruction to an observed condition, which makes the teacher's judgement of the receiver's condition an operative element of practice. The third is the doctrine of skilful means, under which the form of a teaching is adapted to its recipient, and under which a teaching may be given in a partial or provisional form judged appropriate to the recipient's present condition.

Skilful means is the most consequential of the three for the present enquiry, since it authorises something stronger than withholding. It authorises transmitting a modified version, judged by the transmitter, without the recipient being placed in a position to know that the version he receives has been modified. The problems this raises are treated in §8.

3.4 The Proverbial Compilation and the Provenance of the Eight-Character Form

The eight-character maxim appears in its familiar shape in proverbial compilations, joined by the two further clauses about the teacher and the physician, and followed by the lines about the unrighteous son and the party who forgets a kindness. Its provenance is the least secure element in this section, and the difficulty is stated here in place of being passed over.

The maxim is widely attributed, in contemporary popular sources and in reference works of the same character, to 中华圣贤经, *Classic of Chinese Sages and Worthies*, a modern anthology of proverbial and moral sayings. That attribution is unsatisfactory for a scholarly purpose on two grounds. Anthologies of this type collect material of mixed and frequently untraceable provenance and supply no apparatus by which a saying may be traced to an earlier source; and an anthology compiled in the modern period cannot be the origin of a saying it collects, so that the attribution at best records where the eight characters were assembled into their present form.

Three directions are available to a reader wishing to establish the maxim's earlier history, and this paper takes none of them far enough to reach a result. The first is the late imperial proverb and household-instruction literature, in which four-character and eight-character admonitions of this kind were collected in large numbers and circulated widely, and in which parallel formulations concerning the teacher and the physician are common. The second is the morality-book literature of the same period, which circulated outside the classical canon and in which the pairing of transmission with the recipient's moral standing is a recurring theme. The third is the Daoist and Buddhist lineage literature, in which the restriction of transmission is a technical matter of practice and carries a weight a proverbial observation does not, and in which the operative formulations are older. The most that can responsibly be said on the evidence assembled here is that the eight-character form is a late crystallisation of doctrines whose classical statements are given in the preceding subsections, and that its own textual history is unsettled.

The consequence for this paper is procedural. The maxim is used here as a convenient name for a doctrine, and the argumentative weight is carried by the classical formulations cited above, whose provenance is secure. A reader who rejects the attribution of the eight characters, or who traces them to a source other than the anthology commonly named, loses nothing of the argument.

3.5 The Greek Formation and the Defencelessness of the Written Word

The Greek tradition arrives at a closely related position from a different direction. At *Phaedrus* 275–276 (Plato) Socrates objects to writing on two grounds that bear directly on transmission. A written text circulates indiscriminately, reaching those with understanding and those without, and it possesses no capacity to select its audience. And a written text cannot defend itself, cannot answer a question put to it, and cannot adjust its formulation to the objection it meets, so that it stands in need of a parent to come to its aid.

Both objections concern the propagation of a text beyond the conditions of its production. The first is a claim about selection and the second is a claim about interpretive support, and together they anticipate two of the three conditions extracted in §2. The passage is also notable

for identifying the property that makes the problem acute in the modern case: indiscriminate circulation is a consequence of the medium and is unaffected by the intention of the author.

The later Greek and post-Greek practice of exoteric and esoteric writing, and its twentieth-century reconstruction in the study of philosophical concealment under persecution (Strauss 1952), converts Socrates's objection into a technique. A text is composed so that its surface conveys one thing to a general audience and its structure conveys another to a reader capable of following it. The technique is examined in §8 and is found to fail on grounds internal to its own rationale.

3.6 Concealment in Craft and Esoteric Traditions

Restriction of transmission has a substantial history outside the philosophical and religious material, in the guilds, the trades and the technical arts. Guild regulation of apprenticeship controlled who might learn a craft, over what period, and on what terms of service; craft knowledge was protected by oath and by the withholding of key operations from all but advanced apprentices; and comparable restrictions governed the transmission of alchemical, medical and military technique.

Two features of this material distinguish it from the philosophical formations. Its stated rationale is frequently economic, concerning the maintenance of a market position, and the appeal to the apprentice's formation coexists with an interest in limiting the supply of practitioners. And its operation is institutional in place of personal, so that the readiness assessment is administered by a body with procedures, records and appeals. The first feature is evidence for the suspicion recorded in §1, since it shows the doctrine's characteristic vocabulary in use where the operative interest lies elsewhere. The second is evidence in the other direction, since it shows that the assessment can be removed from the individual holder and placed under a procedure, which is the direction Part VI pursues.

3.7 The Common Inheritance and Its Silences

Three claims recur across the formations. Reception depends on the condition of the receiver, and the same material has different effects on differently placed receivers. Acquisition of the kind at issue requires activity by the receiver that the transmitter cannot perform for him. And transmission establishes a relation between the transmitter and what follows, so that the transmitter is implicated in outcomes he does not control.

Three matters are left unaddressed with equal consistency. No formation states how the readiness assessment is to be checked by anyone other than the party making it. No formation distinguishes the case where the receiver's incapacity is remediable by the transmitter's own effort from the case where it is not. And no formation considers the position of third parties who bear the consequences of a transmission or of its withholding while participating in neither.

Claim 3.1. (The inheritance and its gaps). The formations surveyed here transmit a common observation about the state-dependence of reception, a common thesis about the receiver's necessary activity, and a common recognition that transmission implicates the transmitter in what follows; and they transmit these without a procedure for checking the readiness assess-

ment, without a distinction among the remedies available for different reception failures, and without an account of parties affected by the decision who take no part in it.

The three gaps organise the remainder of the paper. The second is addressed in Part II, the first in Part III, and the third in Part V.

4 Relation to Prior Work

This section situates the enquiry among the literatures that already own parts of it, with the objective of fixing the boundary of what this paper claims. It proceeds from the nearest literature outward: epistemic paternalism, which owns the justification of interference with what a person is permitted to receive; information hazards, which own the assessment of content whose circulation carries risk; epistemic injustice, which owns the wrongs done to persons in their capacity as knowers; tacit knowledge, which owns the thesis that codification underdetermines competence; the descriptive study of diffusion, which owns the dynamics of propagation; and the normative structure of open science, which owns the presumption against restriction. Each subsection states what the literature establishes and where its object separates from the object here. The section closes by stating the residue this paper claims.

4.1 Epistemic Paternalism and the Control of Communication

Goldman's (1991) treatment of epistemic paternalism identifies a class of interferences in which one party controls what another receives for the sake of the second party's epistemic condition, and examines the institutional forms it takes in law and in journalism. Ahlstrom-Vij (2013) develops a defence of the practice under specified conditions, and the surrounding literature has largely concerned the terms on which such interference may be justified.

Two differences separate that discussion from this one. The paternalism literature is principally concerned with the withholding or shaping of evidence bearing on beliefs the receiver will form, whereas the object here is a framework whose acquisition reorganises the receiver's capacities. And the paternalism literature debates the justification of an exception to a presumption of free communication, whereas the doctrine examined here presents restraint as the default posture of a competent holder. The position reached in Part VII belongs to the paternalism debate at one point only: it rejects the assessment of the receiver on which the justification of epistemic paternalism ordinarily depends, and relocates the entire question to the transmitter's own conduct.

4.2 Information Hazards and Research of Concern

Bostrom's (2011) typology of information hazards classifies the ways in which the dissemination of true information can produce harm, and the governance of research of concern in the life sciences supplies the institutional counterpart, with review at the point of funding and at the point of publication, and with the more restrictive régimes of national security classification at the limit.

The boundary is the locus of the hazard. That literature treats hazard principally as a property of content, so that a synthesis route or an exploit is hazardous largely independently of who receives it. The doctrine examined here makes the effect depend on the state of the

receiver, so that identical content is benign for one party and damaging for another, and it makes the damage to the receiver himself a central case. The two treatments are complementary, and Part VI draws on the institutional machinery the hazard literature has produced while declining its underlying account of where the hazard resides.

4.3 Epistemic Injustice and the Distribution of Access

Fricker's (2007) account of testimonial and hermeneutical injustice establishes that persons can be wronged specifically in their capacity as knowers, and that a collective deficit in interpretive resources can leave a person unable to render an experience intelligible. Dotson's (2011) analysis of testimonial smothering identifies a further case in which a speaker truncates his own testimony because the audience is judged incapable of receiving it, and Medina's (2013) work develops the associated epistemic vices of the advantaged.

This literature is the principal source of the suspicion recorded in §1, and the relation runs in both directions. Dotson's smothering describes from the position of the disadvantaged speaker very nearly the structure the doctrine of restricted transmission recommends from the position of the holder, which is a strong reason to examine the doctrine's administration closely. In the other direction, this paper supplies something the injustice literature has less of: a mechanism by which hermeneutical deficits are maintained by parties acting in good faith and by their own lights charitably, since a doctrine holding that the unready are harmed by premature transmission converts a refusal into a kindness. Part III develops this mechanism.

4.4 Tacit Knowledge and the Limits of Codification

Polanyi's (1966) thesis that we know more than we can tell, Ryle's (1949) distinction between knowing how and knowing that, and Collins's (1974, 2010) studies of the transmission of experimental competence, notably the case in which the construction of a laser could be accomplished only by parties who had been in personal contact with a working laboratory, establish that codified material underdetermines the competence it describes. Aristotle's account of practical wisdom (*Nicomachean Ethics* VI), acquired through habituation and experience and unavailable by precept, is the classical antecedent.

This literature supplies the support for the one thesis of the received doctrine that Part IV retains. Its object differs from the object here in the respect that matters for an ethics: it is a descriptive and epistemological literature about what can be transmitted, and it is silent on what should be. The step from the first to the second is the step this paper takes, and Part IV states the additional premises it requires.

4.5 Diffusion and the Descriptive Study of Propagation

Rogers's (2003) account of the diffusion of innovations, threshold models of collective behaviour in the tradition of Granovetter (1978), and the analysis of informational cascades describe how material propagates through a population, how adoption depends on the position of the adopter, and how the aggregate outcome can be insensitive to the merits of what is propagating.

The relation is one of division of labour. These models describe the dynamics that the

perturbative account in Part II presupposes, and they establish the state-dependence of adoption as an empirical matter. They take no position on the permissibility of a transmission, and their principal contribution here is negative: they show that a transmitter's control over propagation is weaker than the doctrine's assignment of responsibility to him assumes, which bears directly on the scope of foreseeability in §18.

4.6 The Normative Structure of Open Science and Open Source

Merton's (1973) account of the institutional imperatives of science includes communism, the norm under which findings are assigned to the community and withholding is a departure requiring justification. The open source definition and the free software definition give the norm a legal form, the first by forbidding discrimination against persons, groups and fields of endeavour, the second by making the freedom to run a program for any purpose the first of its four freedoms. The open access movement extends the same presumption to the scholarly record.

This body of norms is the contemporary answer to the doctrine, and it is the setting in which the paper's practical question arises. Its treatment of the matter is a settled presumption together with a small number of recognised exceptions, and it has produced no general account of the transmitter's position, in part because the constitutive documents were written to remove discretion from the holder. Part VI examines what follows when the discretion the definitions removed reappears in the choice of what to release, when, and through what interface.

4.7 The Position This Paper Claims

Claim 4.1. (The unclaimed position). Existing treatments establish the justification conditions for interference with communication, the hazard classes attaching to content, the wrongs done to persons as knowers, the underdetermination of competence by codification, the dynamics of propagation, and the presumption against restriction in scientific and software practice. None states an ethics of transmission that takes frameworks as its object, that replaces the assessment of the receiver with requirements on the transmitter's own conduct, and that connects the resulting requirements to the design of transmission conditions in open knowledge originating parties.

The three elements of the claim are separately modest and jointly unoccupied. The choice of frameworks as the object follows the tradition's own vocabulary and separates the enquiry from the hazard literature. The relocation of the requirements to the transmitter's conduct is what distinguishes the position from epistemic paternalism, and it is the paper's answer to the injustice literature's objection. And the connection to instrument design is what prevents the position from being an attitude, since a requirement that cannot be implemented in a licence, a release procedure or a disclosure interval has no purchase on the practice it addresses.

Part II. The Operation of Transmission upon a Receiving System

5 The Primitive and the Three Conditions of Reception

This section supplies the analytical apparatus on which Parts II to IV rest. Its objective is to replace the doctrine's single notion of readiness, identified in Claim 2.3, with three conditions that can be assessed separately, and to establish the property of those conditions that carries most of the paper's argument: they differ in who is placed to remedy their failure. The section first states the primitive, treating transmission as an operation performed on a receiving system already in some state; it then states each of the three conditions in turn, with the vocabulary the tradition uses for it and the reconstruction adopted here; and it closes with the distribution of remedy and with the misclassification that distribution makes possible. The method is analytical, and a restriction is stated at the outset: the account given here is descriptive, and every normative claim drawn from it in later sections rests on premises stated separately at the point of use.

5.1 The Operation and the State on Which It Acts

The received doctrine's implicit model treats transmission as a delivery: material passes from a holder to a receiver, and the question is whether the receiver deserves or can handle it. That model makes the receiver a container and the material the operative object. The reconstruction adopted here reverses the emphasis.

Definition 5.1. (Reception). The change produced in a receiving system by a transmission, determined jointly by what is transmitted and by the state of the system at the time of the transmission.

Write r for the state of the receiving system, θ for what is transmitted, and $E(\theta, r)$ for the change reception produces. The definition asserts that E depends on both arguments. Nothing in it is unusual, and versions of it are assumed throughout the study of learning, of diffusion and of persuasion. Its consequence for an ethics of transmission is nonetheless substantial, since it removes the possibility of assessing a transmission from its content alone.

Claim 5.2. (State-dependence of the effect of a transmission). For transmissions of the kind at issue, there exist states r_1 and r_2 of a receiving system such that $E(\theta, r_1)$ leaves the system better placed by its own lights and $E(\theta, r_2)$ leaves it worse placed, for one and the same θ .

Claim 5.2 states the doctrine's core observation, and the observation is correct. A party who wishes to defend unconditional transmission is obliged either to deny it, which is difficult, or to hold that the transmitter has no responsibility for the second case, which is a distinct position requiring its own argument and is examined in §18.

What follows from Claim 5.2 by itself is limited, and the limit should be stated. The claim establishes that the receiver's state is relevant to the assessment. It establishes nothing about who is competent to determine that state, and the doctrine's move from the first to the second is the subject of Part III.

5.2 The Representational Condition

The tradition holds that a receiver may lack the apparatus by which what arrives could be interpreted, and describes the result in terms of a message that reaches him as an affront or as absurdity. The reconstruction retains the observation and discards the vocabulary of frequency and resonance in which the supplied discussion expressed it.

Definition 5.3. (The representational condition). A transmission satisfies the representational condition for a receiver when the receiver possesses interpretive resources sufficient to render what arrives as a candidate for assessment, whether or not he then accepts it.

The condition concerns intelligibility and stops short of agreement. A receiver who understands a framework and rejects it satisfies the condition. A receiver for whom the framework's central terms have no application, or map onto terms that carry a different sense in his own scheme, fails it, and the failure is compatible with high intelligence, extensive education and complete good faith.

Two features of this condition matter later. It is a matter of degree, and it is a matter of the fit between two schemes and not a property of the receiver alone, so that a receiver who fails the condition with respect to one presentation of a framework may satisfy it with respect to another. Both features bear on the remedy.

5.3 The Dynamical Condition

The tradition holds that a receiver whose present arrangements continue to serve him has no occasion to reorganise them, and that difficulty is what dislodges those arrangements. The reconstruction retains the structural observation and defers the tradition's further claim, that the difficulty is therefore necessary and to be permitted, to §11, where it is rejected.

Definition 5.4. (The dynamical condition). A transmission satisfies the dynamical condition for a receiver when the receiver's present arrangements are near enough to a boundary of their own stability that reception could produce a reorganisation the receiver's own resources would then maintain.

Two failures are possible, and the tradition attends to one of them. A receiver far from any such boundary will absorb the transmission into his existing arrangements with the arrangements unchanged, which is the failure the tradition has in view when it speaks of an untimely teaching. A receiver already past the boundary is in a different position, in which reception may be received as a description of a disorder he is already undergoing, and this case is invisible to the tradition's formulation.

The condition concerns the receiver's own trajectory and is largely inaccessible to the transmitter, a point developed in §8. Its status here is descriptive. The observation that a transmission arriving to a settled system changes nothing is compatible with several different normative conclusions, and the tradition's conclusion is one of them.

5.4 The Relational Condition

The tradition holds that transmission travels along a connection, that the connection is constituted by trust, and that in its absence the material fails to penetrate however forcefully it is

delivered. Stated without the imagery, the condition concerns the existence of a channel with a particular property.

Definition 5.5. (The relational condition). A transmission satisfies the relational condition for a pair of parties when a relation exists between them under which the receiver has reason to expend interpretive effort on what the transmitter offers before assessing it.

The property picked out is the extension of interpretive credit. Acquiring a framework requires the receiver to work with terms whose value he cannot yet see, and to do so for some time before the value becomes apparent. That expenditure is unreasonable in the absence of a reason to expect a return, and the relation supplies the reason. Its sources are various, and they include prior acquaintance, institutional position, demonstrated competence in an adjacent matter, and the receiver's own prior request.

The relational condition is the one the received doctrine states least clearly and the one contemporary conditions have altered most. A transmission published to an open platform reaches parties with whom the transmitter stands in no relation at all, which is the modern form of Socrates's objection to the written word.

5.5 The Distribution of Remedy Across the Three Conditions

This subsection states the property that distinguishes the three conditions of Definitions 5.3 to 5.5 from one another, and it is the principal result of the section. The conditions have been defined separately so that the following can be asserted about them.

Proposition 5.6. (The asymmetry of remedy). The three conditions differ in the party able to remedy their failure. A failure of the representational condition is remediable by work the transmitter can perform, since the condition concerns the fit between two schemes and the transmitter can alter his side of it. A failure of the relational condition is remediable by the two parties jointly and over an interval, since a relation is constituted by both. A failure of the dynamical condition is remediable by neither party without producing the reorganisation whose unsupported production is the harm the doctrine identifies.

The proposition is the reason the three conditions must be distinguished. Under the doctrine's single notion of readiness, all three failures issue in the same counsel, which is to withhold and to wait. Under the distinction, only the third failure issues in that counsel. The first generates an obligation on the transmitter to do work he has ordinarily left undone, and the second generates a reason for him to establish something he has ordinarily assumed.

Claim 5.7. (The standing misclassification). The failure most available to a transmitter's observation is the representational one, since a receiver who has failed to understand shows it; and the counsel the doctrine attaches to it is the counsel appropriate to the dynamical failure. A transmitter applying the received doctrine will therefore withdraw in the case where his own effort was owed.

There is a second misclassification running the other way, and it should be recorded alongside the first. A transmitter convinced that a receiver's difficulty is representational will explain with greater energy and at greater length, and where the difficulty is in fact dynamical this produces the forced perturbation the doctrine warns against. The two misclassifications

are symmetrical in structure and asymmetrical in frequency, since the first requires only inattention while the second requires a conviction about the receiver.

6 Capacity, Displacement, and the Portability of Transmitted Knowledge

This section develops two distinctions that the received doctrine gestures at without stating, and that later parts use. The first concerns what a transmission does to the receiving system: it may supply a displacement, moving the system to a configuration it lacks the resources to hold, or it may alter the system's capacity, changing what the system is able to hold. The second concerns what is transmitted: knowledge whose operation depends on a transformation of its holder behaves differently in circulation from knowledge that operates in any hands. The section states each distinction, draws the connection between them, examines the parallel case of development assistance where the same structure has been studied at length, and closes by rejecting the tradition's own version of the second distinction. The method is analytical throughout, and the empirical support for the aid parallel is cited without an assessment of the disputed questions in that field.

6.1 Displacement and Capacity in the Response to a Transmission

Consider a receiving system with more than one configuration it can maintain, separated by a barrier in the sense that movement between them requires an input the system does not generate on its own. A transmission may act on such a system in two ways.

Definition 6.1. (Displacement-supplying and capacity-altering transmission). A transmission is displacement-supplying for a receiver when its effect consists in moving the receiver toward a configuration whose maintenance depends on continued input from the transmitter. It is capacity-altering when its effect consists in a change to the resources by which the receiver maintains his own configurations.

The distinction is not a distinction between two kinds of content. One and the same framework may be transmitted in either manner, and the manner is determined by the form of the transmission, the interval over which it occurs, and what the receiver is required to do during it. A framework delivered as a set of conclusions to be adopted tends toward the first; the same framework worked through until the receiver can generate its conclusions himself tends toward the second.

Claim 6.2. (Reversion of an unsupported reorganisation). Where a transmission is displacement-supplying, the receiver's configuration reverts on the withdrawal of the transmitter's input, and the reversion is not in general to the prior configuration, since the receiver's confidence in his prior arrangements has been reduced in the interval and is not restored by the reversion.

Claim 6.2 states the substance of the tradition's warning about premature transmission, without the vocabulary of energy in which the tradition expresses it. The warning is well taken and it has a scope the tradition does not mark: it bears on the manner of transmission and says nothing about whether transmission should occur. A transmitter who has understood Claim 6.2 has a reason to transmit differently, and he acquires a reason to withhold only

if capacity-altering transmission is unavailable to him.

6.2 The Parallel with Development Assistance

The structure described in Claim 6.2 has been studied at length in a domain where the resources transferred are material. The literature on aid dependency examines transfers that improve a recipient's position while the transfer continues and leave the recipient's own capacity unchanged or diminished, with the consequence that the improvement is unsustainable and its withdrawal costly. The associated literature on institutional transplant examines the same structure for institutions, where an arrangement that functions in its setting of origin fails in a recipient setting whose supporting practices differ.

Claim 6.3. (The correspondence between transmission and transfer). The distinction between displacement-supplying and capacity-altering transmission is the distinction the aid literature draws between transfers that substitute for a recipient's productive capacity and transfers that build it, and the conclusions available in the second case carry to the first.

Two of those conclusions are worth carrying explicitly. The first is that the distinction is a matter of design and not of generosity, so that a well-intentioned transfer of large magnitude is a poor predictor of the outcome. The second is that the recipient's participation in determining the form of the transfer is among the better predictors, which supplies an argument for the receiver's involvement that does not depend on any assessment of his readiness. The bearing of the second on the position stated in Part VII is direct.

6.3 Portability and Self-Protection in Transmitted Knowledge

This subsection states the second of the section's two distinctions, which concerns the body of knowledge transmitted in place of the manner of its transmission. Some knowledge operates in the hands of any holder who possesses it, and some operates only in the hands of a holder whose capacities have been reorganised in acquiring it.

Definition 6.4. (Portable and self-protecting knowledge). A body of knowledge is portable to the degree that its effective use is available to a holder who has acquired it without a corresponding change in his own capacities, and self-protecting to the degree that its effective use requires such a change.

Self-protection is a matter of degree and is a property of the pairing of a body of knowledge with a domain of use. A technique that produces its result mechanically is portable. A framework whose application requires judgement in each case, and whose misapplication is evident to its possessor and costly, is self-protecting to that extent. The concept is descriptive and carries no implication that self-protecting knowledge is safe, since a holder who does undergo the reorganisation may use what he acquires for any purpose whatever.

6.4 The Standing of the Received Distinction Between Principle and Technique

This subsection examines the version of the portability distinction that the received doctrine states for itself, and finds it to fail in a specific and correctable way. The counsel is to transmit the *dao* (道), the principles, in public, and to withhold the *shu* (術), the techniques a recipient could apply directly for advantage. The reasoning is that principles improve the recipient's

formation while techniques equip him to act on the formation he already has.

Claim 6.5. (Failure of the principle-technique axis). The distinction between principle and technique fails to track the property the tradition intends it to track. A framework that reorganises a holder's perception of a domain generalises across cases, and its availability to a holder whose purposes are hostile increases his effectiveness across all of them, whereas a technique is confined to the cases it covers. Principles are therefore in general more consequential in hostile hands than techniques, and the axis inverts the ordering it was introduced to supply.

The example the history of political thought supplies is decisive and requires no elaboration: the works that have most reliably equipped their readers for effective manipulation are works of principle. The tradition's counsel, applied, transmits the more dangerous item and withholds the less.

Definition 6.4 supplies the axis the tradition needed. What limits the misuse of a body of knowledge is the dependence of its use on a transformation the misuser has to undergo, and that dependence is a property of the knowledge and its domain, not of its level of generality. The connection to §6 is worth stating, since the two distinctions turn out to be one distinction seen from the two ends of the transmission: capacity-altering transmission is the mode by which self-protecting knowledge is in fact transmitted, and a self-protecting body of knowledge transmitted in displacement-supplying form arrives as an inert artifact whose holder can neither use it nor recognise that he cannot.

7 Misreception and the Interpretation the Receiver Produces

This section examines what occurs when the representational condition of Definition 5.3 fails. Its objective is to establish that failure of that condition produces an outcome distinct from non-transmission, and worse for both parties in a specific respect, and to identify the mechanism responsible. The section states the mechanism, identifies the resources from which the receiver's interpretation is produced, compares the resulting position with the position that silence would have produced, and states the bearing on the transmitter's foreseeability. The account is offered as an explanation of a pattern the tradition records without explaining, and the tradition's report of that pattern is treated as evidence for it.

7.1 The Compulsion to Interpret

A transmission that reaches a receiver requires interpretation. Where the receiver possesses interpretive resources adequate to the material, the interpretation he produces is a candidate reading of the material, which he may then accept or reject. Where his resources are inadequate, the requirement to interpret remains and the resources for meeting it are absent.

Claim 7.1. (The compulsion to produce an interpretation). A receiver who has received a transmission is unable to leave it uninterpreted, since the transmission has occurred, was addressed to him, and calls for a response; and where his interpretive resources are inadequate to the material, he produces an interpretation from the resources he has.

The claim is about the position the receiver is placed in and requires no assumption about

his disposition. A transmission that arrives is a fact about his situation, and situations of that kind are met with an account. The unavailability of an account adequate to the material leaves the requirement in force and the means of satisfying it reduced.

7.2 The Resources from Which the Interpretation Is Produced

Where the material's own content is unavailable as a resource, three others are ordinarily available, and each supports a reading unfavourable to the transmitter.

The first is the transmission's social form. A transmission that the receiver cannot follow presents to him as an assertion of the transmitter's superior position, since that is a reading available without any grasp of the content. The second is the receiver's estimate of the transmitter's purpose, which in the absence of content is supplied by his general expectations about parties who address him. The third is the receiver's own standing account of his situation, into which the transmission is absorbed as a further element, ordinarily as a criticism.

Claim 7.2. (The character of the interpretation produced under representational failure).

The interpretations available to a receiver under failure of the representational condition are drawn from the transmission's social form, from his estimate of the transmitter's purpose, and from his existing account of his own position; and each of these supports a reading of the transmission as an assertion of standing, a criticism, or an imposition.

Claim 7.2 supplies the mechanism behind the pattern the tradition reports, in which a transmission offered as a benefit is received as an attack, and it is also the mechanism behind the responses the supplied discussion described as rejection: the reading that the receiver produces is a reading he then has reason to resist. The account has the advantage of requiring nothing about the receiver's character, and it therefore avoids the imputation that the tradition's own explanation makes and that Part III finds objectionable.

7.3 The Comparison Between Failed Transmission and Silence

This subsection compares the position of a receiver who has received a transmission he cannot interpret with the position of a receiver to whom nothing was transmitted. The two outcomes differ in a respect that has consequences for both parties.

Claim 7.3. (The asymmetry between failed transmission and silence). Where a transmission fails the representational condition, the receiver holds an interpretation of the material, produced by him, unfavourable to it, and now available to him on subsequent encounters with the same material. Silence leaves him without an interpretation. The two positions differ in that the first is an obstacle to later reception and the second is a blank.

The claim is the strongest available support for something in the received doctrine, and it should be recorded as such. A transmitter with reason to believe the representational condition fails, and no means of remedying the failure, has a reason to delay that appeals to the receiver's interest and not to the transmitter's convenience.

The scope of that support is narrow, and the narrowness is what the doctrine loses. Claim 7.3 supports delay where the representational failure cannot be remedied. Proposition 5.6 holds that the representational failure is the one the transmitter can ordinarily remedy by his own work. The two together yield a conclusion the doctrine does not draw: the case

in which delay is supported by the receiver's interest is the case in which the transmitter has already established that his own available work would fail, and establishing that requires the work to have been attempted.

7.4 The Bearing on Foreseeability

Claims 7.1 and 7.2 bear on the account of foreseeability given in §18 in a specific way. They establish that a transmitter who publishes to parties whose interpretive resources he has not established is producing interpretations he has not authored and cannot inspect. The consequences of a transmission therefore include a set of readings of it, held by parties he may never encounter, and generated by a mechanism whose operation he can predict in form while remaining unable to predict its content in any particular case.

The unavailability of these readings to the transmitter is a real limit on what he can foresee, and Part VII treats it as one. It is also the point at which the position taken in this paper separates from the counsel of restraint: a limit on what can be foreseen bears on the content of the transmitter's obligation and supplies no ground for withdrawing from the act, since silence has consequences of its own that are equally unforeseeable and are examined in §12.

Part III. The Readiness Judgement and Its Administration

8 The Interested Character of the Readiness Assessment

This section examines the readiness assessment on its own account. Part II granted the doctrine its core observation, that the effect of a transmission depends on the state of the receiver. The doctrine's further step is to make the holder responsible for determining that state before acting, and it is that step this section assesses. The section identifies three defects in the assessment as the doctrine constitutes it: the party who makes it is relieved by one of its outcomes; the filters by which it is commonly implemented select on a property uncorrelated with the property they are supposed to detect; and the assessment assigns the receiver a position from which he cannot contradict it. Each defect is stated as a structural property of the arrangement, which is to say that it holds whatever the intentions of the party applying it. The section closes by stating what remains of the assessment once the three defects are taken into account.

8.1 The Position of the Party Conducting the Assessment

The assessment is conducted by the holder, before the act, on evidence available to him, and its two possible outcomes are unequal in what they cost him. A finding that the receiver is ready obliges the holder to conduct a transmission, which under §6 is substantial work if it is to be capacity-altering, and which exposes him to the consequences the doctrine's second protection identifies. A finding that the receiver is unready releases him from both.

Claim 8.1. (The interested character of the readiness assessment). The readiness assessment is conducted by the party for whom one of its outcomes discharges an obligation and averts an exposure, on evidence which that party alone holds, by a criterion which that party alone applies, with no procedure by which a third party may examine the finding.

The claim asserts a structural property and imputes nothing to any particular assessor. An arrangement in which the party bearing a burden also determines whether the burden applies, on private evidence and by a private criterion, will produce findings correlated with that party's interest at a rate that does not depend on the sincerity of the individuals involved. This is a familiar result about the design of assessments, and it is the reason such determinations are ordinarily removed from the interested party wherever the stakes are material.

The history recorded in §3 is the evidence one would predict. The vocabulary of the doctrine appears in the guild material alongside an economic interest in restricting the supply of practitioners, and the readiness assessment there discharged both functions at once, with the parties applying it under no obligation and in general no ability to distinguish which function their finding served.

8.2 Selection by Interpretive Capacity in Esoteric Encoding

The doctrine's third firewall practice, identified in §3, is to compose so that the surface conveys ordinary content and the structure conveys the substance, so that the prepared reader obtains the material and the unprepared obtains something harmless. The practice is attractive because it appears to solve the transmitter's problem without withholding from anyone: the filter is applied by the material to its readers, with the transmitter making no assessment at all.

Claim 8.2. (Selection under an encoded filter). A filter constituted by the difficulty of an encoding selects readers by interpretive capacity. Interpretive capacity is uncorrelated with the disposition the filter is introduced to detect, and it is positively associated with the capacity to act effectively on what is obtained. An encoded filter therefore admits the class of readers best equipped to misuse the material and excludes a class whose composition it does not determine.

The claim defeats the practice on the practice's own rationale. If the concern is that the material may be taken up for manipulation and advantage, the encoding preferentially admits those able to decode a concealed argument, and there is no reason of any kind to expect that population to be selected for restraint. The practice succeeds only against the incapable, who were also the least likely to act on the material.

A second and weaker objection may be recorded. The encoding shifts the cost of the material's obscurity onto every reader, including those the transmitter would have wished to reach, and it does so without their knowledge, since a reader cannot tell whether he has failed to understand a difficult argument or has failed to detect a concealed one. That the practice has a distinguished history is not evidence for its efficacy, since its historical use was overwhelmingly to evade censors, where the relevant population is defined by hostility and the encoding is aimed at a reader who is capable and adverse, and where the design succeeds for reasons that fail to carry over.

8.3 The Position Assigned to the Receiver

This subsection states the third of the three defects, which concerns what the readiness assessment does to the standing of the party it assesses.

Claim 8.3. (Insulation of the assessment from the receiver's objection). Under the doctrine, a receiver's disagreement with a transmission, his rejection of it, or his hostility toward it constitutes evidence of the unripeness the assessment was to determine. The receiver's objection therefore confirms the finding it opposes, and the assessment is insulated from correction by the party best placed to supply it.

An assessment with this property cannot be shown to have been misapplied by anything the receiver does, and the transmitter accordingly receives no signal distinguishing a correct finding from an incorrect one. The tradition's own imagery states the position openly: a receiver who has been assessed as unready stands to the transmitter as a seed that has yet to germinate stands to a gardener, and a seed is not a party to a disagreement.

The equanimity the doctrine offers is purchased at this price, and the price should be stated plainly, since the supplied discussion presented the equanimity as the doctrine's principal benefit. Ceasing to be troubled by another party's rejection of one's framework is available by ceasing to count that party as able to reject it. The relief is genuine and its cost falls entirely on the other party and on the transmitter's access to correction.

8.4 The Standing of the Assessment After the Three Defects

This subsection states what survives the three defects set out above, since the defects are of different weights and admit of different responses.

Claim 8.1 is a defect of administration and is remediable in principle, by removing the determination from the interested party. Part VI examines arrangements that do exactly this, and identifies the property that makes them work: they replace an assessment of the receiver with a procedure that applies to all receivers alike. Claim 8.2 is a defect of a particular implementation and defeats that implementation. Claim 8.3 is the most serious of the three, since it concerns the criterion and not its administration, and it is the reason the position stated in Part VII declines to repair the readiness assessment and replaces it.

Claim 8.4. (The residue of the readiness assessment). What survives examination is the observation of Claim 5.2, that the effect of a transmission depends on the receiver's state, together with the transmitter's evident interest in that state. What fails is the assignment to the transmitter of a determination, made in advance, on private evidence, by a criterion the receiver's objection cannot disturb.

The distinction between attending to the receiver's condition and adjudicating it is the distinction the doctrine collapses. A transmitter who attends to the receiver's condition adjusts his transmission, which is what Proposition 5.6 requires of him in the representational case. A transmitter who adjudicates it decides whether the receiver is to have access at all, and the second is a decision he is not competent to make and has an interest in making one way.

9 The Obligation Structure of Free Transmission and the Separation of Access from Advocacy

This section addresses the remaining component of the received doctrine, the requirement that transmission be paid for, and then draws the distinction on which the paper's position

depends. The section first examines the tradition's claim that knowledge obtained without cost is not valued, finds the claim false in the general form in which the tradition states it, and identifies the mechanism that the tradition's observation was tracking. It then separates two acts that the doctrine treats as one: making knowledge available to a party who seeks it, and pressing knowledge upon a party who has not. The separation reconciles the doctrine's defensible content with the commitments recorded in §4, and it is used throughout Parts V to VII. The method in the first half is critical and in the second stipulative, and the stipulation is defended by the work it does.

9.1 The Received Claim About Cost

The tradition holds that a body of knowledge obtained without an equivalent expenditure, whether of deference, of search, or of trial, is not valued by its recipient, and that hostility toward the transmitter follows. The maxim's second clause states the prescription this supports, and the narrative of Huike in the snow states its limiting case.

The claim has support in one narrow area. Experimental work on effort justification establishes that a costly path to an outcome raises the subject's evaluation of the outcome (Aronson and Mills 1959), and the effect is robust. The tradition's claim is nonetheless false in the form it is stated, and the counterexample is available at a scale that admits no dispute.

Claim 9.1. (Failure of the general claim about cost). Bodies of knowledge distributed at zero price and without conditions of access, including the free software corpus, the open access scholarly record, and the collaboratively produced reference works, are extensively used, extensively maintained, and highly valued by their recipients, many of whom contribute to their upkeep at their own cost. The general claim that knowledge obtained without cost fails to be valued is therefore false.

Two observations refine the counterexample, and both leave its force intact. The recipients in these cases frequently do expend effort, and the effort is expended in use and contribution after acquisition, which locates the effect Claim 9.1 denies at a different point in the sequence from where the tradition places it. And the artifacts in question are portable in the sense of Definition 6.4, which leaves open the possibility that the tradition's claim holds specifically for self-protecting knowledge. That possibility is admitted here and is not the mechanism the tradition invokes.

9.2 The Obligation Structure Beneath the Received Claim

This subsection supplies an account of the reaction the tradition reports, which is available without the general claim about valuation that Claim 9.1 rejects. The tradition was observing a real phenomenon, and the mechanism producing it is well described elsewhere.

Claim 9.2. (The undischageable obligation). A transmission conferring a substantial benefit and admitting of no reciprocation places the receiver under an obligation he has no means of discharging. Where the obligation is undischageable, the responses available to the receiver include devaluation of what was given, devaluation of the giver, and attribution to the giver of a motive that cancels the obligation; and each of these presents to the transmitter as ingratitude or hostility.

The mechanism is the one established in the anthropology of the gift (Mauss 1925), where a gift that cannot be returned establishes a standing asymmetry between the parties, and where the recipient's position is understood to be one of subordination. It applies with particular force to the transmission of a framework, since the benefit is large, its magnitude is evident to the receiver only after acquisition, and the receiver has ordinarily nothing of comparable standing to return.

Claim 9.2 supplies the correct account of the experience the received doctrine reports, and it differs from the tradition's own account in a way that matters. The tradition attributes the hostility to a deficiency in the receiver, which supports withholding from the deficient. The gift analysis attributes it to a structural feature of the transaction, which supports altering the structure. Three alterations are available and none requires withholding: the transmitter may accept a return, however nominal, which converts the gift into an exchange; he may transmit into a setting where the return runs to a third party or to a common resource, which is what a commons does; or he may transmit in a form that makes the receiver a contributor, which converts the recipient into a participant. The third is the mechanism by which open knowledge originating parties have handled the problem, and §14 examines the arrangements that implement it.

9.3 Access and Advocacy

The doctrine treats transmission as a single act, permitted or withheld. Two acts are contained in it, and they differ in almost every respect that bears on an ethics.

Definition 9.3. (Access and advocacy). A transmitter provides access when he places a body of knowledge in a form and a location where a party seeking it may obtain it. He engages in advocacy when he directs a body of knowledge at a party who has not sought it, with the intention that the party take it up.

The two acts differ in their initiating party, in the relational condition of Definition 5.5, and in what the transmitter can know. Access is initiated by the receiver, whose approach is itself evidence about the relational and dynamical conditions, and it requires no assessment of anyone. Advocacy is initiated by the transmitter, requires the transmitter to have formed a view about the receiver's condition, and produces the misreception described in §7 when the view is wrong.

Claim 9.4. (Separation of the doctrine's defensible content). The defensible content of the doctrine of restricted transmission bears on advocacy and not on access. The observations of Claims 5.2, 6.2, 7.2 and 9.2 concern what happens when material is directed at a party who has not sought it, and none of them supports the withholding of access from a party who has.

The claim is what allows the paper to hold a position on both sides of the dispute recorded in §1. The commitments of open science and open source are commitments about access, and this paper endorses them without qualification. The tradition's warnings are warnings about advocacy, and this paper endorses those as far as Parts II and III allow. The apparent conflict between them arises from a conflation, and the conflation is present in the tradition's formulation, which never distinguishes the teacher who declines to seek out students from

the teacher who turns away a student at his door.

It should be recorded that the tradition's own most careful formulations lean toward this reading. The four-clause proverbial form describes a posture of waiting to be approached, which is a restriction on advocacy. The Buddhist requirement of request makes the receiver's initiative the operative condition, which again concerns advocacy. The formulations that sort persons in advance, of which *Analects* 6.21 is the clearest, are the ones that restrict access, and they are the formulations the analysis of §8 bears against most directly.

9.4 The Residual Difficulty in the Distinction

Two objections to Definition 9.3 are serious and are recorded here, with the second answered in Part VI.

The first is that the distinction is unstable at the margin. Publication to an open platform is access by the definition, and a platform's recommendation system may deliver the material to parties who have not sought it, which is advocacy conducted by an intermediary on the transmitter's behalf. A transmitter who publishes in a setting whose distribution mechanism he understands has performed both acts, and the distinction survives only where the transmitter's choice of setting is treated as part of the act. Part VI treats it so.

The second is that access without advocacy is compatible with a state of affairs in which a body of knowledge is nominally available and practically unobtainable, because obtaining it requires resources unequally distributed. A transmitter who has published in a form only specialists can use has provided access in the sense of Definition 9.3 and has left the representational condition unaddressed for everyone else. Proposition 5.6 holds that the representational failure is remediable by his own work. The consequence is that the provision of access is a weaker requirement than the position of Part VII imposes, and the distinction drawn here settles what may be withheld without settling what is owed.

Part IV. Frameworks and the Transformation of the Receiver

10 The Artifact and the Reorganised Subject

This section defends the one substantive thesis of the received doctrine that survives the examination conducted in Part III. The thesis holds that for a class of knowledge the artifact encoding it underdetermines the competence, so that supplying the artifact leaves the knowledge untransmitted; and the tradition draws from it the conclusion that the journey and its destination cannot be exchanged for one another. The section states the thesis, gives the independent support available for it, distinguishes it from two neighbouring claims with which it is easily confused, and draws the consequence that occupies the remainder of the paper: reception capacity is constructed, and its construction is work that a transmitter is in a position to do. The method is to establish the thesis on grounds independent of the tradition, and to use the tradition's formulations as evidence of the observation's persistence.

10.1 The Underdetermination of Competence by Its Encoding

This subsection states the thesis the section defends and gives the independent support available for it. The thesis concerns the relation between a body of knowledge and the artifact in which it is written down.

Claim 10.1. (Underdetermination of competence by the artifact). For a class of bodies of knowledge, a complete and accurate encoding is consistent with a range of competences in a party who has received and understood it, and the range includes the absence of the competence altogether. Possession of the artifact is therefore insufficient for possession of the knowledge.

Three independent bodies of work support the claim. The study of tacit knowledge establishes that the articulable component of a competence is a proper part of it, and that practitioners routinely accomplish what they cannot describe. The distinction between knowing how and knowing that establishes the same result from the side of the concepts, since an ability is not constituted by any set of propositions the possessor can state. And the empirical study of the transmission of experimental competence supplies the strongest form of the evidence: attempts to construct a working apparatus from published specifications failed, and succeeded in the cases where the constructing party had been in personal contact with a laboratory where the apparatus worked, with the parties themselves unable to identify what the contact supplied.

The classical antecedent is the account of practical wisdom as a state acquired through habituation and repeated action, unavailable by instruction, and distinguished on exactly this ground from the theoretical states that instruction does convey. The received doctrine's insistence that the words of a teaching may be held without the teaching being held restates the same distinction in another vocabulary.

10.2 The Boundary of the Claim

Claim 10.1 is easily confused with two neighbouring claims, one weaker and one stronger, and the confusion damages it in opposite directions.

The weaker claim holds that acquiring a body of knowledge takes time and practice. This is true of nearly everything and supports none of the conclusions drawn here, since it is compatible with the artifact containing everything required and the receiver simply needing to work through it. Claim 10.1 asserts more: that what the artifact contains is insufficient in principle, so that no amount of work on the artifact alone completes the acquisition.

The stronger claim holds that the knowledge in question is inarticulable and that its transmission requires an unmediated contact between persons. This overstates the evidence, which shows only that the articulated component is incomplete, and it has an unfortunate consequence, since a body of knowledge held to be inarticulable is thereby placed beyond examination and its holder beyond challenge. The literature on tacit knowledge has itself moved away from the strong reading, distinguishing components that are contingently unarticulated, components that are unarticulated because nobody has done the work, and components whose articulation is genuinely blocked. Only the third supports the strong claim, and it is the small-

est of the three.

The position taken here is the middle one. The artifact underdetermines the competence; the gap is substantially reducible by work on the presentation, the examples, the exercises and the setting; and a residue remains whose size varies by domain and is an empirical matter in each case.

10.3 Reception Capacity and the Labour of Its Construction

This subsection draws the consequence of the middle position stated above, and the consequence runs against the use the received doctrine makes of the underdetermination thesis.

Claim 10.2. (Constructibility of reception capacity). The capacity to receive a framework is substantially constructed in the course of a transmission designed to construct it, by the ordering of the material, the supply of intermediate cases, the provision of occasions for the receiver's own attempts, and the availability of correction. Where the capacity is absent at the outset, its absence is therefore evidence about the transmission that has been attempted and not only about the receiver.

The pedagogical literature supplies the developed form of this claim, in the account of a region in which a learner can accomplish with assistance what he cannot accomplish alone (Vygotsky 1978), and in the associated account of the assistance as a temporary structure withdrawn as the capacity forms. That account was constructed for children and generalises poorly in its details; its structural point generalises exactly. Readiness is defined relative to the assistance available, so that a receiver who is unready with respect to one transmission is ready with respect to another.

The consequence for the doctrine is direct. The tradition uses the thesis of Claim 10.1 to establish that the receiver must do the work, and infers that the transmitter should wait. Claim 10.2 establishes that the receiver's ability to do the work is itself partly the transmitter's product. The inference to waiting therefore requires an additional premise, that the transmitter's available work would fail, and the doctrine supplies no procedure for establishing it.

10.4 The Consequence for the Received Doctrine's Central Image

The tradition's most compelling illustration of Claim 10.1 is the observation that a journey undertaken to obtain a text cannot be replaced by the delivery of the text, since the party who receives the text without the journey lacks what the journey produced. The illustration is apt, and the reading the tradition gives it is one of two available.

On the tradition's reading, the journey was necessary and the delivery would have been futile, from which it follows that a party in a position to deliver should decline. On the alternative reading, the binding constraint was the receiver's capacity to make use of what was delivered, which is a constraint on reception and not on transport; and since reception capacity is constructed, the party in a position to deliver has a question to answer about what he could have done to make the delivery useful.

Claim 10.3. (The bearing of the underdetermination thesis on the transmitter's position). Claim 10.1 establishes that transport of an artifact is insufficient for transmission of a com-

petence. It establishes nothing about whether the artifact should be transported, and taken with Claim 10.2 it identifies the construction of reception capacity as work the transmitter is in a position to undertake. The thesis therefore assigns the transmitter a task and supplies no ground for his withdrawal.

The tradition's figure, invoked to counsel restraint, prescribes on examination a particular kind of activity. That is the outcome in each of the three parts so far: the observations the doctrine assembles are sound and the counsel it derives from them does not follow.

11 Effortful Acquisition and Imposed Hardship

This section separates two claims that the received doctrine runs together and that the supplied discussion treated as one: that acquisition of the kind at issue requires the receiver's own sustained activity, which Part IV has established, and that it requires the receiver's suffering, which this section rejects. The section states the second claim in the form the tradition gives it, identifies what would be required to support it, examines the evidence the tradition offers and finds it to be of a kind that cannot support any such claim, and states the consequence of accepting the claim without support. The section closes with the methodological rule that follows, governing the use of the tradition's figures throughout this paper. The method is critical, and the section's conclusions are stated as restrictions on what may be inferred and not as claims about the traditions themselves.

11.1 The Received Claim About Necessary Hardship

The tradition holds that a receiver's difficulties are the mechanism by which acquisition occurs, that a receiver spared them acquires nothing, and that a party in a position to relieve them should therefore decline to do so. The narrative form of the claim is the pilgrimage completed through a fixed number of ordeals, each of which is held to have been necessary, when the same destination was reachable in a single passage by a member of the party.

Three assertions are contained in this, and they are separable. The first is that acquisition requires effortful engagement over time, which Part IV has established and which nothing here disturbs. The second is that the effortful engagement must take the form of adversity, meaning difficulty that the receiver has not chosen and that carries costs beyond the effort itself. The third is that a party in a position to relieve the adversity should decline, which requires the second and adds a normative premise.

Claim 11.1. (Separability of effort from adversity). Effortful engagement over time and adversity are distinct. Deliberate practice, extended apprenticeship, sustained study and repeated attempt with correction are all forms of the first, and none of them requires the second. The evidence establishing that acquisition requires the first therefore supplies no support for the necessity of the second.

The distinction is available in the tradition's own material. The Confucian formulation of the condition for instruction describes a student straining toward an insight, which is effort. The narratives of ordeal describe cold, mutilation, danger and loss, which are adversity. The tradition treats the second as an intensified form of the first, and the treatment is an assump-

tion, stated nowhere and defended nowhere.

11.2 The Character of the Evidence Offered

This subsection examines the evidence the tradition offers for the second of the three assertions isolated above, namely that acquisition requires the receiver's adversity. The support offered for that assertion is narrative in form. A pilgrimage is completed through a fixed set of ordeals; the party arrives transformed; and the transformation is attributed to the ordeals, with the further claim that the removal of any one of them would have left the transformation incomplete.

Claim 11.2. (The unavailability of a designed narrative as evidence about an undesigned process). In a narrative composed by an author, every episode contributes to the outcome by construction, since episodes that contribute nothing are removed in composition. The completeness of a designed sequence is therefore a property of its composition and carries no information about the sequences that occur where no author is present. An inference from the necessity of each episode in a narrative to the necessity of each difficulty in a life or in the history of an institution is invalid at its first step.

The claim disposes of the tradition's principal illustration in this connection, and it is worth stating what remains after the disposal. A narrative may still be used to display a structure, to fix a vocabulary, or to record what a tradition believed. The illustration of the pilgrimage displays the structure of Claim 10.1 admirably, and it is used for that purpose in §10. It cannot establish that the difficulties encountered by an actual party were necessary to what that party became, since the only evidence available for that proposition would be the comparison the narrative form forecloses.

The observation generalises to the empirical case. In an undertaking that succeeded, the difficulties that preceded the success are available for retrospective assignment of necessity, and the assignment is unconstrained, since the counterfactual is unobserved and the parties who failed under comparable difficulties are absent from the account. The claim that difficulty was necessary is therefore protected in a way that claims about causes ordinarily are not.

11.3 The Consequence of Adopting the Claim Without Support

This subsection examines the third of the three assertions, which holds that a party in a position to relieve adversity should decline to do so. That assertion is the operative one for conduct, and its adoption has a consequence extending far beyond the transmission of knowledge.

Claim 11.3. (The generality of a licence granted to necessary suffering). A premise holding that suffering is necessary to development supplies a justification for permitting suffering wherever development is at stake, and it supplies the justification to any party in a position to relieve it, including parties whose interest lies in declining. The premise cannot be confined to the cases its proponent has in view, since it operates on a feature, the presence of difficulty, that is common to the cases he has in view and the cases he does not.

The structure is the one familiar from theodicy, and it inherits the same difficulty. An argument establishing that a given quantity of suffering was necessary to a given good is an

argument available for every quantity of suffering and every good, and the party invoking it is ordinarily not the party bearing the suffering. In the transmission case the asymmetry is exact: the premise is invoked by the party who holds the knowledge, to justify declining an act that would have cost him effort, in respect of difficulty borne by another party who is not consulted.

This paper accordingly rejects the third assertion, and the rejection is not a marginal adjustment to the doctrine. Together with Claim 11.1 and Claim 11.2 it removes the tradition's account of why waiting is appropriate, and what remains of the counsel to wait must be supported by the receiver's interest under the narrow conditions established in Claim 7.3, which is a substantially smaller foundation.

11.4 The Admission of Figures and Foreign Domains

The examination in this section and in §3 yields a rule that has governed the treatment of the tradition's material throughout this paper, and that is stated here for the reader's inspection.

Requirement 11.4. (Conditions on the admission of a figure or a foreign domain). A figure, narrative or comparison drawn from a domain outside the argument may be admitted where four conditions hold: it performs work that no literal statement in the argument performs; its source domain is one in which the relevant structure is observed and not composed, or the composed character of the source is stated and the inference restricted accordingly; it assigns no position to the author or to the reader that the argument has not independently established; and the claim it supports is stated separately in literal terms, so that a reader rejecting the figure retains the claim.

The third condition deserves comment, since it is the one the tradition's material fails most consistently. The figure of the pilgrimage assigns to the party who could deliver the text the position of one who sees the destination and declines to shorten the road, and the figure of the seed assigns to the transmitter the position of the gardener. A reader who adopts the figure has accepted a description of the parties, and the description is the conclusion the argument was to establish. Figures that carry role assignments of this kind are the ones to be handled with most care, since their persuasive force operates before any premise has been examined.

Part V. Organisational Recipients and the Propagation of an Analysis

12 Institutional Reception, Operative Function, and the Distribution of Cost

This section extends the analysis from persons to institutions. The extension matters because the doctrine of restricted transmission is applied to institutions at least as often as to persons, ordinarily in the form of a counsel to a critic who holds an analysis of an arrangement and considers whether to press it. The section establishes that the extension fails at three points: the party bearing the cost of restraint differs, the standing of the recipient differs, and the recipient's readiness is distributed in a way that changes what a transmitter may do. Before those three, the section states a prior finding which supplies a better explanation than unreadiness of the phenomenon the doctrine reports, concerning the function a practice performs and the

address of a critique directed at it. The section is analytical, and its material is stated in general terms, with no organisation, sector or jurisdiction identified and no example drawn from public affairs.

12.1 The Received Extension to Institutional Recipients

The doctrine is extended to institutions by a straightforward substitution. An institution occupies a configuration that is stable and that its participants find serviceable; a critique directed at that configuration meets incomprehension, defensive reaction, and futility, since no replacement is available to occupy the vacated position; and the counsel follows that the critic should withhold and permit the arrangement to encounter its own difficulties, from which the successor will emerge.

The three reported failures are real, and the explanation offered for them is available for examination. The following subsections supply a different explanation of the first, and show that the counsel does not follow from the second and third.

12.2 The Operative Function of a Practice and the Address of a Critique

An institutional practice ordinarily performs more than one function, and the function that sustains it is frequently other than the function it announces. A practice that announces the improvement of decisions may be sustained by its capacity to supply justification for decisions, to distribute responsibility for them, or to render an organisation's conduct legible to a body that oversees it. Where this is so, the practice's survival depends on its performance of the sustaining function and is largely independent of its performance of the announced one.

Claim 12.1. (The address of a critique and the function that sustains a practice). A critique establishing that a practice performs its announced function poorly bears on the practice's continuation only where the announced function is the sustaining one. Where a different function sustains the practice, such a critique is correctly assessed by its recipients as bearing on a matter that is settled elsewhere, and its rejection is a competent response and not a failure of comprehension.

Claim 12.1 explains the reception the doctrine reports better than unreadiness does, and it does so on three grounds. It requires no claim about the cognitive limits of the recipients, which the doctrine's explanation requires and cannot support. It predicts the specific character of the rejection, in which the critique is acknowledged as interesting and set aside. And it is checkable, since the functions a practice performs can be investigated.

The consequence for a critic is a redirection and not a withdrawal. A critique that bears on the sustaining function is receivable where one bearing on the announced function is not, and the two are frequently available from the same analysis. An analysis showing that a practice supplies weaker justification than its users suppose bears directly on a justificatory function, and a critic who holds such an analysis has something to say that his recipients have reason to hear.

12.3 The Bearers of the Cost of Restraint

The interpersonal case and the institutional case differ in who bears the cost of a decision to withhold.

Claim 12.2. (The distribution of the cost of institutional restraint). Where a critic withholds an analysis of an established practice, the costs of the arrangement's continuation fall on the parties it serves, who took no part in the decision to withhold and are ordinarily unaware that it was taken. The interpersonal argument for restraint appeals to the receiver's own interest in his own difficulties, and that appeal is unavailable in the institutional case, where the receiver and the bearer are different parties.

The doctrine's counsel in the institutional case is ordinarily expressed as respect for the recipient's autonomy and for the rhythm of its development. Respect of that kind is owed to agents in virtue of their standing as agents. An organisation has a claim against interference, and the claim derives from the interests of the parties it serves and from the arrangements by which those parties authorise it. A critic who invokes respect for an organisation's own trajectory has therefore borrowed a warrant belonging to the parties served, and he is obliged to show that those parties would endorse the withholding, which is ordinarily difficult to show and is rarely attempted.

A symmetrical point holds against the opposite error, and it is stated here to prevent the argument from proving too much. Pressing an analysis also has costs, and those costs also fall in part on the parties served, since an arrangement destabilised without a successor imposes on them the disorder the doctrine identifies. The finding of Claim 12.2 is that the costs on both sides fall on third parties, so that the decision is not a choice between imposing on a recipient and leaving him alone. It is a choice between two distributions of cost among parties who are absent from it.

12.4 The Distribution of Readiness Within an Institution

This subsection states the third of the three differences between an organisational recipient and a personal one, which concerns the object to which a readiness assessment would be applied.

Claim 12.3. (Distributed readiness in an institutional recipient). An institution has no single state answering to the readiness of Definition 5.4, since its participants occupy different positions, hold different views of the arrangement, and stand at different distances from any reorganisation of it. A finding that an institution is unready is therefore a finding about an aggregate that possesses the property in no uniform way, and it obscures the existence of participants for whom the conditions of reception are satisfied.

The claim removes the institutional case from the scope of the binary the doctrine offers. Where the recipient is a person, transmission and withholding may exhaust the options. Where the recipient is an institution, a third option is available and is the one by which re-organisations of institutional practice historically occur: transmission to the participants for whom the conditions hold, who then occupy the position of internal carriers of the analysis.

Two qualifications belong with this. Transmission to internal parties is subject to the whole

of Part III, since a critic selecting his recipients is conducting a readiness assessment with the defects of Claim 8.1, and the appropriate discipline is that the selection determines the effort he expends and never the availability of the material. And a critic who cultivates internal carriers is engaged in an activity with its own ethics, since the carriers bear costs within their institution that he does not bear. Both qualifications point toward the requirement stated in §13.

13 Deposit, Advocacy, and the Timing of an Alternative

This section addresses the strongest argument the doctrine has in the institutional case, and shows that it supports a conclusion opposite to the one drawn from it. The argument holds that an arrangement is reorganised by its own accumulated failures, that a critique arriving before those failures has no purchase, and that the critic should therefore wait. The section grants the premise, examines what is known about how reorganisations of institutional practice actually proceed, and finds that the availability of an articulated alternative at the moment a reorganisation becomes possible is among the conditions of its occurring. The section then states the requirement that follows, distinguishes it from advocacy, and closes with a test by which a critic may examine his own decision to withhold. The material is stated in general terms throughout, and the section identifies no organisation, sector or programme.

13.1 The Received Argument for Awaiting Failure

This subsection states the argument for awaiting failure in the form its proponents give it, before any assessment of it. The argument proceeds in three steps. Participants in a functioning arrangement have no occasion to reorganise it while it continues to serve them. The occasion is supplied by accumulated failure, which converts an external observation into an internal demand. And an alternative adopted under external pressure lacks the internal support that would sustain it, so that a successor arrangement must be generated by the parties who will operate it.

Each step corresponds to something established earlier. The first is the dynamical condition of Definition 5.4 in institutional form. The third is Claim 6.2 applied to an institution, and it is the strongest of the three, since the correspondence with the transfer literature of §6 holds closely for institutional arrangements. The argument is therefore well founded to this point, and the question is what follows from it.

13.2 The Availability of an Articulated Alternative

This subsection examines the step from the three premises stated above to the counsel of withholding, and finds that the step depends on an assumption the evidence contradicts. The assumption is that a successor arrangement is generated after the failures accumulate, from resources present at that time. The study of how organisational and institutional practice change supplies a different account.

Claim 13.1. (The condition of availability at the moment of opening). Alternatives are developed over long intervals, largely independently of the failures that eventually create an

occasion for their adoption; and what is adopted when an occasion arises is drawn from the alternatives that are articulated, carried by identifiable parties, and available at that moment. An analysis withheld until the failures have accumulated is therefore absent from the set from which the successor is drawn.

The account of the formation of an agenda for change in which problems, policies and politics develop in separate streams and are coupled when a window opens (Kingdon 1984) states the mechanism, and the observation that the response to a crisis is assembled from the ideas that happen to be lying about states its consequence. Studies of paradigmatic change in a field of practice (Hall 1993) add the further condition that an alternative requires carriers who have worked with it before the occasion arrives.

Claim 13.2. (The inversion of the received counsel). If the received argument is sound, then the useful act of a critic who holds an analysis is to complete it, record it, and make it available before the occasion for its use arises. The premises of the argument for waiting are premises for depositing early, and the counsel to withhold the analysis follows only under the additional assumption that an analysis available in advance cannot be taken up when the occasion arrives, which the record contradicts.

The inversion is the section's principal result and it should be stated in its exact scope. It concerns the availability of the analysis. It leaves the argument against pressing the analysis untouched, since the mechanisms of §12 and §7 operate against a critique directed at parties who have not sought it, and the accumulation of failure changes what those parties seek.

13.3 Deposit and Advocacy in the Institutional Case

This subsection states the requirement that Claim 13.2 supports, using the distinction between providing access and directing material at a party who has not sought it. The two acts of Definition 9.3 come apart cleanly in the organisational case.

Requirement 13.3. (Deposit of an analysis in advance of its occasion). A party holding an analysis of an established practice, who judges that the occasion for its reception has yet to arise, satisfies his obligation by completing the analysis, publishing it in a form and a location where a party seeking it may obtain it, and remaining available to parties who approach him; and he satisfies it without directing the analysis at parties who have not sought it.

The posture the requirement describes has a classical statement, given in §19, in which what generates does not possess, does not depend on what it has done, and does not rule what it has raised. Deposit is that posture in a practice: the origin is recorded honestly, and the future of what was produced is left to those who take it up.

Three features of the requirement are worth marking. It is discharged by an act the critic is in a position to perform without any assessment of anyone. It is compatible with the entire content of the doctrine's warning, since deposit is access and the warning bears on advocacy. And it accords with the position taken by the tradition of public reason at its origin (Kant 1784), in which a public is held to require its own passage to maturity while the scholar addressing the reading world is held to require complete freedom in doing so. The two commitments are ordinarily read as being in tension. On the distinction of Definition 9.3 they are

the same position.

13.4 The Position of a Critic Holding a Critique

The remainder of this section examines the position of an individual critic, since the doctrine's counsel is addressed to individuals and the difficulty it addresses is one that critics in fact encounter. The case is stated in general terms.

A critic has completed an analysis of a practice adopted by an organisation. He judges the arrangement to have limitations that its users have not identified. He also judges that the arrangement performs a sustaining function competently, that its users are unlikely to receive an analysis bearing on the announced function, and that no successor is available which they could operate. He concludes that pressing the analysis would be futile and that its recipients are best left to encounter the limitations themselves.

Everything in that sequence is consistent with the findings of this Part, and the conclusion does not follow from it. Claim 12.1 holds that a critique bearing on the sustaining function is receivable, and the critic has ordinarily not attempted to state one. Claim 13.1 holds that the analysis must exist and be available before the occasion, so the judgement that the occasion has yet to arrive is a reason for completing and depositing it. Claim 12.2 holds that the costs of the arrangement's continuation fall on parties the critic has not consulted, so his judgement that the arrangement is stable describes the position of its operators and leaves the position of the parties served unexamined.

Claim 13.4. (The discriminating property of a restraint judgement). A judgement to withhold that rests on the conditions of reception is conditional, states what would make transmission appropriate, and leaves the analysis complete and available; a judgement to withhold that has other sources is unconditional, states no such conditions, and terminates the work. The two are distinguishable by inspection of what the party who makes it then does.

The claim supplies a critic with a test he can apply to himself, which is the most that can be supplied here, since the sources of a person's judgements about his own reception are outside the reach of any criterion. Its value lies in the fact that the two judgements have different consequences that are visible: one leaves an analysis in the record, and the other leaves nothing. A critic who has concluded that his recipients must arrive at his conclusion by their own route, and who has therefore stopped writing, has produced the outcome that the argument for waiting was to have prevented, since the successor is drawn from what is available and he has made nothing available.

Part VI. Instruments for the Design of Transmission Conditions

14 The Harms at Issue in Open Propagation and the Design of Licence Terms

This section opens the examination of instruments, and it does so in two movements. The first states the harms a transmitter has reason to be concerned about, extends the doctrine's list to the harms that arise specifically where propagation is open and unbounded, and ranks them by their salience in that setting. The second examines what licensing practice has achieved

against those harms: the refusal of purpose filtering enacted by the constitutive definitions and the reasons given for it, the attempts to reintroduce purpose restrictions and the difficulties they have met, the one widely adopted condition that binds recipients without assessing them, and the design guidance that follows for a transmitter choosing terms. The material is legal and institutional, and the section takes no position on how far any instrument is enforced in practice.

14.1 The Harms the Doctrine Identifies and the Harms Open Propagation Adds

§2 recorded three harms in the doctrine's own account: the reaction the transmission attracts to the transmitter, the use of the material by recipients whose purposes are hostile, and the expenditure of a transmission that is received without being taken up. Open propagation adds a fourth that the doctrine's settings could not have produced, and three further ones that follow from the same conditions.

Claim 14.1. (The harms at issue in open propagation). A transmitter propagating a body of knowledge without bound on its recipients is exposed to seven harms of distinct structure. The first falls on the transmitter and consists in hostility, disparagement and exclusion attracted by the transmission. The second falls on third parties and consists in use of the material for advantage over them or for harm to them. The third falls on the material and consists in its non-uptake. The fourth falls on the field and consists in occupation: a body of work of low quality that arrives first fixes the vocabulary, framing and reference points of a subject, and where its terms of use restrict derivation, later work of higher quality is obstructed by the very artifact it would improve. The fifth is degradation in propagation, in which a simplified or distorted version circulates, is taken to represent the original, and is criticised in its place. The sixth is displacement of standing, in which the material circulates and the relation between it and the party who produced it is lost. The seventh is the burden of maintenance, in which the transmitter acquires an indefinite obligation of support, correction and interpretation which he did not undertake and cannot discharge.

The fourth is the most consequential of the additions and the least discussed. It has two components that are ordinarily treated separately. The first is a matter of sequence: an early entrant to a subject supplies the terms in which subsequent work is stated, and the advantage compounds through citation and through the training of those who enter later, with the result that quality at the outset has effects out of proportion to its own merit. The second is a matter of terms: where the early artifact carries restrictions on derivation, a later party wishing to improve it must obtain permission, negotiate with a holder who has an interest in the incumbent version, or begin again without the accumulated apparatus. The two components compound, and the compound is what produces a subject in which the best available treatment is one that nobody may lawfully repair.

The literature on rights of exclusion distributed across many holders describes the general form of the second component (Heller and Eisenberg 1998), in which a resource is underused because the permissions required to use it are held separately and any holder may block. The literature on path dependence describes the general form of the first. The conjunction of the two in an intellectual field appears to be less examined, and this paper's contribution here is

confined to naming it and locating the instrument that bears on it.

Claim 14.2. (The salience of the harms in the open setting). In the setting of open propagation, the harms of hostile use and of occupation are the most consequential, followed by the harm to the transmitter of hostility attracted. The doctrine of restricted transmission addresses the first and the third of these and has nothing to say about the second, since occupation requires an artifact that circulates widely and terms that restrict derivation, and neither condition obtained in the settings where the doctrine was formed.

The claim has a consequence for the doctrine's standing that is worth stating. A counsel of withholding aggravates the harm of non-uptake, is indifferent to the harm of occupation, and addresses the harms of hostile use and of hostility attracted at the cost of the other two. The instruments examined in the remainder of Part VI address the harms individually, and their advantage over the doctrine is largely that they can do so.

On the harm of hostility attracted, one observation belongs here and is supported by §7 and §9. Hostile commentary directed at a transmission is frequently a response to the position the transmission places the respondent in, and not to its content: Claim 7.2 identified the readings available to a respondent whose interpretive resources are unequal to the material, and Claim 9.2 identified the position of a party placed under an obligation he cannot discharge. A transmitter who understands the mechanism is in a position to distinguish a criticism engaging the material from a response produced by the transaction, and the practical value of the distinction is that the first is informative and the second is not.

14.2 The Licence and the Condition It Attaches

This subsection fixes the object the remainder of the section examines, and states the structural respect in which it differs from the instruments of the received doctrine.

Definition 14.3. (Transmission condition). A term attached to a transmission which specifies what a recipient may do with what he receives, and whose violation alters the recipient's entitlement to it.

A licence is the developed legal form of such a condition, and it has a property that distinguishes it from the tradition's instruments. The tradition's instruments operate before the transmission, by an assessment of the recipient. A licence operates after it, by a term applying to every recipient alike. The doctrine of restricted transmission and the practice of licensing are therefore two answers to one question, and they place their control at opposite ends of the act.

14.3 The Refusal of Purpose Filtering in the Constitutive Definitions

The definitions constituting the open source and free software categories exclude conditions of a specific kind. The open source definition forbids discrimination against persons or groups, and forbids discrimination against fields of endeavour, so that a licence restricting use in a named industry or for a named purpose falls outside the category. The free software definition makes the freedom to run the program for any purpose the first of the freedoms it enumerates.

Claim 14.4. (The constitutive refusal of purpose filtering). The definitions constituting open source and free software exclude conditions on the purpose of use and on the identity of the user. These movements therefore confronted the question this paper addresses and answered it by removing from the holder the discretion the doctrine of restricted transmission assigns to him.

The reasons given for the exclusion bear directly on Part III's findings and are worth recording, since they were reached independently. A condition on purpose requires that some party determine the purpose of a use, which requires an authority over purposes and a procedure for exercising it, and no such authority was available that the movements were willing to constitute. A condition on identity divides recipients into classes and requires a criterion for the division, with the consequences the historical record supplies. And a licence whose scope depends on the licensor's assessment of a use is unpredictable to a recipient, who must then obtain the licensor's view before relying on the grant, which reinstates the holder's discretion at every step and defeats the purpose of a general licence.

The third reason is the one least often stated and the most instructive here. It identifies a cost of conditions in general: a condition assessed case by case by the holder converts every use into an occasion for the holder's judgement, and a body of knowledge available on those terms is available in a substantially weaker sense.

14.4 Use Restriction in Ethical Licensing

The refusal recorded in Claim 14.4 has been contested continuously, and with increasing force where the artifacts released have applications their authors regard as harmful. The resulting instruments attach terms forbidding specified categories of use, in some cases by enumerating them and in others by reference to a general standard such as harm to persons or violation of rights. Similar terms appear in the non-commercial variants of the general content licences and in the community licences accompanying released model weights.

Claim 14.5. (The position of a use-restricting licence). A licence restricting use by purpose is excluded from the open source and free software categories by Claim 14.4, and it therefore forgoes the ecosystem those categories organise. It also carries the determination problem the categories were designed to avoid, since the terms restricting use require interpretation, the interpretation falls to the licensor, and a recipient uncertain of the licensor's view is in the position Claim 14.4's third reason describes.

Two further observations complete the picture without settling the dispute. The enforcement record for such terms is thin, and the instruments are frequently adopted for their expressive function, which is a real function and a different one. And the terms bind those who accept them, which is a population correlated with willingness to comply, so the instruments operate least on the parties they name.

The assessment offered here is that the ethical licence is an attempt to solve the problem of Part III at the wrong end of the transmission. It attaches a condition on purpose to an artifact that has already been released to everyone, and the condition is then interpreted by the interested party. The instruments examined in §15 place their condition earlier and their determination elsewhere, and they succeed to the extent that they do so.

14.5 The Condition on Propagation and the Structure of the Gift

One widely adopted condition binds recipients substantially while assessing none of them, and its structure is the one identified in §9 as the correct response to the difficulty the received doctrine reports.

Reciprocal licensing conditions a recipient's entitlement on his extending the same terms to those who receive from him. It restricts neither purpose nor person. What it restricts is the recipient's freedom to become a holder who transmits on narrower terms than those on which he received.

Claim 14.6. (Reciprocal licensing and the discharge of the transmission obligation). A reciprocal condition converts a transmission that admits of no return into one whose obligation is discharged toward third parties. It thereby removes the structural feature identified in Claim 9.2 as the source of the hostility the received doctrine reports, and it does so without an assessment of the recipient, without a restriction on his purposes, and without a determination reserved to the holder.

The claim connects two literatures that are ordinarily unconnected. The anthropology of the gift holds that an unreciprocable benefit establishes a standing asymmetry which the recipient has reason to resent, and that the asymmetry is dissolved where a return is possible. Reciprocal licensing supplies a return that is possible, since the recipient discharges it by transmitting onward, and the return runs to parties other than the giver, which removes the subordination that a direct return would preserve.

Two limits belong with the claim. The condition operates on the artifact and not on the competence, so it addresses the transmission of frameworks only in the degree to which they are carried by artifacts. And it binds recipients who redistribute, leaving a recipient who uses privately outside its reach, which is the boundary the network variants of these licences were written to move and have moved only partly.

14.6 The Design Choice in Practice

This subsection states, harm by harm, what licence terms achieve against the seven harms of Claim 14.1 and what they leave unaddressed, and it closes with the requirement that follows for a transmitter choosing terms. The statement is the practical content of the section.

Against hostile use, licence terms are weak. A term forbidding a category of use operates on parties willing to comply and is interpreted by an interested holder, and Claim 14.5 records the consequences. The instruments of §15, which condition the transmitter's own process, do more.

Against occupation, licence terms are the decisive instrument, and the direction they must take is the opposite of the direction restriction suggests. Occupation is produced by the conjunction of an early artifact with terms restricting derivation, and a term permitting derivation dissolves the second component: where a later party may take the incumbent treatment, correct it and publish the correction, an inadequate early work is repairable in place. A reciprocal condition adds that the repair is itself available to those who follow. This yields the section's practical recommendation and its clearest one, since the harm the transmitter fears most in a

scholarly setting is answered by supplying more freedom to his recipients and not less.

Against non-uptake, licence terms bear indirectly, since terms requiring negotiation before use raise the cost of uptake and depress it. Against degradation in propagation, a licence may require that modified versions be marked as modified, which is a term the general content licences and the software licences both carry and which addresses the harm at low cost. Against displacement of standing, attribution terms are precisely fitted and are the least contested of all licence conditions. Against the burden of maintenance, licence terms do almost nothing, and the disclaimers of warranty that every such licence carries address the legal exposure while leaving the practical obligation where it fell; the arrangement that addresses it is the constitution of a body of maintainers, which is a matter of the community's design and not of the licence's.

Requirement 14.7. (The statement of terms at the point of deposit). A transmitter states the terms of a transmission at the point of deposit, and prefers, among the terms compatible with the access he has decided to provide, those permitting derivation and requiring attribution, the marking of modifications, and the extension of the same terms onward. Terms that are absent at deposit are unavailable afterwards for the copies already distributed, and terms restricting derivation transfer the risk of the transmitter's own errors onto every party who might have corrected them.

The requirement's second clause states a consideration that a transmitter is ordinarily reluctant to accept, and it follows from the paper's position, with no general preference for openness required to reach it. A holder who restricts derivation has retained a means of revision, which Requirement 19.2 favours, and has simultaneously removed the means by which others might revise, which is the larger of the two where his own account of his material proves wrong. The balance is not general and depends on the case; what the position requires is that the transmitter state which of the two he has chosen and on what grounds, since the choice is made once and binds every subsequent party.

15 Staged Access and the Administered Interval

This section examines the instruments that place their condition before the transmission and yet avoid the defects of Part III. Its objective is to identify the property that distinguishes the arrangements that succeed from those that reinstate the readiness assessment under another name. The section examines staged and structured release, review of research whose publication carries recognised risks, and coordinated disclosure in security research; it identifies coordinated disclosure as the arrangement that comes closest to implementing the position of Part VII; and it states the property the successful arrangements share, together with the point at which structured access departs from it. The material is institutional and is described in general terms, and the section assesses the designs and not their outcomes.

15.1 Staged and Structured Release

Where an artifact is released in stages, a smaller or less capable version is published first, the interval is used to observe what is done with it, and subsequent stages proceed in the

light of that observation. Where access is structured, the artifact is retained by its holder and recipients are given the use of it through an interface which constrains the operations available and records them.

The two designs differ in an important respect. Staged release is a schedule, and at its end the artifact is published to everyone; the condition is temporal and the holder's discretion expires. Structured access has no such terminus, and the holder retains both the artifact and the determination of who may use it and for what.

Claim 15.1. (The reinstatement of the assessment under structured access). An arrangement in which a holder retains an artifact and admits parties to its use on his own determination is the arrangement of Claim 8.1 in institutional form. The determination is made by the party whom refusal relieves, on evidence he holds, by a criterion he applies, and with no procedure by which a refused party may examine the finding.

The claim is not an objection to structured access, which has grounds that Part VII's criterion recognises. It is a statement of what such an arrangement costs and of what would answer the cost, since the defects identified in Claim 8.1 are defects of administration and are remediable by publication of the criterion, by a record of decisions, and by a route of appeal to a party other than the holder. An arrangement supplying none of these is a readiness assessment with a technical interface, and its historical analogues are the ones examined in §3.

15.2 Review of Publication in Fields Carrying Recognised Risks

In the life sciences and in adjacent fields, a body of practice has developed under which work of specified kinds is reviewed before publication, with the review conducted by a body constituted for the purpose, against criteria stated in advance, and with the possibility of publication in redacted form.

The design differs from the doctrine's in the respects that matter. The criteria concern the content and its applications, and they do not concern the identity or the formation of prospective readers. The determination is removed from the author, who has the interest that Claim 8.1 identifies, and is given to a body whose composition and criteria are public. And the presumption operates in favour of publication, so that the burden falls on the party seeking restriction.

The design's difficulties are also instructive. The criteria are difficult to apply at the margin; the review adds delay whose costs fall on parties who would have used the work; and a determination against publication removes the material from the record without removing it from the parties who already hold it. The last of these is the irreversibility examined in §17, operating in the direction opposite to the usual one.

15.3 Coordinated Disclosure

The arrangement developed in security research has the following structure. A party who discovers a defect communicates it first to the party able to repair it; a period is fixed within which repair is expected; the discovering party withholds publication during that period; and at its expiry the material is published, whether or not the repair has been made.

Claim 15.2. (The substitution of a procedure for an assessment in coordinated disclosure).

Coordinated disclosure achieves the objective the doctrine of restricted transmission pursues, namely that material with a capacity for harm reaches parties in an order and at a pace that reduces the harm, and it achieves it without any assessment of the recipients. Its instruments are a fixed interval, a designated first recipient determined by his relation to the defect, and a terminus at which the material becomes available to everyone.

Three properties of the design carry the result, and each answers one of the findings of Part III. The interval is fixed in advance and applies to all cases of its class, so the determination is removed from the discovering party's judgement of any particular recipient, which answers Claim 8.1. The first recipient is designated by an objective relation, being the party able to repair, so no assessment of worthiness is conducted, which answers Claim 8.3. And the terminus guarantees eventual publication, so the arrangement withholds access from nobody permanently, which places it on the permitted side of Claim 9.4.

The design is contested at exactly the point the analysis predicts. Disputes concern the length of the interval and the conditions for extending it, which is to say that they concern the terms of a public rule. Disputes of that kind are conducted between parties on a common footing and are settled by argument about the rule. This is the visible difference from a régime of holder discretion, in which the corresponding disputes have no public object to be about.

15.4 The Property Shared by the Successful Arrangements

This subsection states what the three arrangements examined above have in common where they succeed, and what distinguishes those from the arrangements that reproduce the defects of Part III.

Claim 15.3. (The distinguishing property of the arrangements that succeed). The arrangements examined here succeed to the degree that their conditions apply to the transmitting party's own process, are stated in advance, are uniform across recipients, and terminate in availability. They fail, and reproduce the defects of Part III, to the degree that their conditions apply to the recipient, are assessed case by case, and reserve the determination to the party who benefits from a refusal.

The property named in Claim 15.3 is the institutional form of the paper's position. A transmission condition that binds the transmitter is examinable, since the terms are public and compliance is visible. A transmission condition that sorts recipients is examinable by nobody, since the evidence is private and the refused party has no standing to contest the finding. The instruments that have proved workable in practice have converged on the first, and they converged on it without reference to the tradition this paper has been examining, which is some evidence that the convergence is driven by the structure of the problem.

16 Withholding by an Originating Party over Its Own Material

This section examines a class of cases in which withholding is defensible and in which the analysis of Part III does not apply. Its objective is to establish that the warrant for a restriction on transmission depends on the position of the parties relative to one another, and to identify

the ground on which the defensible cases rest, which is distinct from the ground the received doctrine offers. The section states the position of the parties in the cases the doctrine ordinarily addresses, describes the contrasting case in structural terms, identifies the ground of the difference, and states the limit beyond which that ground does not carry. The section is stated at the level of the structure of the cases, and it examines no particular claim, instrument or party.

16.1 The Position of the Parties in the Received Cases

In the cases the doctrine addresses, the party withholding holds a competence the other lacks, occupies the stronger position in the relation, and determines whether the relation continues. The receiver's position is the one Claim 8.3 describes, in which his objection confirms the finding. The pattern is what one would expect of an arrangement in which the advantaged party determines what the disadvantaged party may have.

That description fixes the cases the analysis of Part III is about, and it indicates by contrast what a different case would look like. Three features characterise the contrasting case. The material originates in the withholding party's own practices and is constitutive of them, so that the party stands to it as a maker and not merely as a holder. The withholding party occupies the weaker position with respect to those who would take the material up. And the record of the relation between them includes recording and use of the material without the originating party's participation in the decision.

16.2 The Instruments Developed for the Contrasting Case

This subsection describes the instruments developed for the contrasting case set out above, in which an originating party asserts terms over material produced within its own practices. Arrangements of that kind exist and have acquired institutional recognition. Their common features are worth stating at the level at which they are common, since the argument here depends on the form of the terms and not on the setting of any particular instrument.

The terms concern consent to recording and to subsequent use, attribution of the material to the party from whose practices it came, participation of that party in decisions about its circulation, and a share for that party in what its use produces. The determinations under such terms are made by the originating party. The instruments attach to material already held in external collections as well as to material yet to be recorded, and they operate by supplying terms where terms were previously absent.

16.3 The Ground of the Difference

This subsection identifies the ground on which the instruments described above rest, and distinguishes it from the ground the received doctrine offers. The temptation is to read those instruments as a vindication of the doctrine of restricted transmission, since they restrict transmission and are defensible. The reading is available and it is wrong, and the reason it is wrong is the point of this section.

Claim 16.1. (The ground of a defensible restriction by an originating party). A restriction asserted by an originating party over material constitutive of its own practices rests on that

party's standing in relation to what it has made and on the record of the relation between the parties. It does not rest on an assessment of whether prospective recipients are ready, worthy, or capable of receiving the material without harm to themselves. The two grounds are independent, and the defensibility of the first supplies no support for the second.

The distinction is visible in the terms themselves. They concern consent, attribution, participation and distribution, which are terms about standing and control. A term about the recipient's formation appears in none of them, and an instrument of this kind would be no weaker if every prospective recipient were assumed to be entirely competent.

Claim 16.2. (The dependence of the warrant on the position of the parties). A restriction asserted by a party in the weaker position, over material constitutive of that party's own practices, against a record of use without its participation, has a warrant that a restriction asserted by a party in the stronger position, over material in which the receiver has no claim, does not have. The doctrine of restricted transmission is stated without reference to the position of the parties, and its formulations therefore apply indifferently to a case carrying a warrant and a case carrying none.

The claim explains why one and the same maxim reads as wisdom in one setting and as gatekeeping in another, and it identifies what the maxim leaves out. It also has a consequence for this paper's own position, since a criterion stated over the transmitter's conduct alone would be similarly indifferent. §19 accordingly records the position of the parties as a term of the position advanced here.

16.4 The Limit of the Ground

The ground identified in Claim 16.1 does not transfer to the cases the received doctrine principally addresses, and the reason should be stated to prevent a misuse of this section.

A holder who has developed a framework, and who is in the stronger position with respect to a prospective recipient, has a claim in what he has made, and the claim supports terms of the kind examined in §14: attribution, reciprocity, and participation in what follows. It supplies no support for a determination that a particular recipient may not have the material, since that determination is the one Claims 8.1 and 8.3 find defective, and nothing in this section repairs those findings. What separates the two cases is the position of the parties and the record between them, and a holder invoking the ground of this section on his own behalf has borrowed a warrant constituted by a record he stands on the other side of.

17 Irreversibility in Publication and the Allocation of the Justificatory Burden

This section states the property of transmission that governs the position of Part VII, and derives from it an allocation of the justificatory burden. Its objective is to establish that transmission designs differ in the degree to which their terms remain revisable after the act, that the differences are assessable in advance, and that a burden of justification attaches where a design forecloses revision. The section states the irreversibility of publication, orders the designs examined in this Part by the revisability they retain, states the criterion, and states the guard that prevents the criterion from operating as a presumption in favour of withholding.

The criterion is normative and its premises are stated with it.

17.1 The Unrecoverable Character of a Published Body of Knowledge

This subsection states the property of publication on which the section's criterion depends, together with the corresponding property of withholding, since the argument requires both.

Claim 17.1. (Irreversibility of publication). A body of knowledge that has been published is held by parties whose identity the publisher does not know and cannot enumerate, in copies he cannot recall, and it will be held by them whatever he subsequently decides. Withdrawal of the artifact removes it from the parties who have yet to obtain it and leaves it with those who have.

The claim is a commonplace and it has a consequence that is less often drawn. The decision to publish is taken once, under whatever understanding the publisher then has, and it binds every later state of his understanding. Later parts of a transmission may be revised, later editions may correct earlier ones, and the terms attached to subsequent copies may be tightened; the copies already distributed stand outside all of it.

A second and opposite irreversibility should be recorded alongside the first, since the argument depends on both. Material withheld and subsequently lost is irrecoverable, and material withheld during an interval in which it would have been used has not been supplied to the parties who would have used it, whose situations have meanwhile developed. Withholding is a decision with irreversible consequences of its own, and §13 identified the specific form these take when an occasion for an analysis arrives and the analysis was never completed.

17.2 The Revisability Retained by a Transmission Design

The designs examined in this Part differ in what remains available to the transmitter after the act.

Proposition 17.2. (The ordering of transmission designs by retained revisability). Transmission designs admit of a partial ordering by the means of revision they retain: publication without terms retains none; publication under terms retains whatever the terms provide and the transmitter is willing and able to enforce; publication in stages retains the disposition of the later stages; an administered interval retains the disposition of the material during the interval and nothing after its terminus; and retained access with mediated use retains the disposition of the material throughout, at the cost identified in Claim 15.1.

The ordering is partial because the designs differ along a second axis, the extent of the access they provide, and the two axes are opposed: the designs retaining most revisability provide least access, and the design providing complete access retains nothing. This opposition is the structure of the design problem, and no instrument examined here escapes it.

17.3 The Allocation of the Burden

This subsection states the section's normative content, which allocates the burden of justification between the parties to a contested transmission, and fixes the three terms the allocation depends on.

Criterion 17.3. (Allocation of the justificatory burden in transmission). Where a transmission would produce effects that are substantially irreversible, and the transmitter's account of those effects is unsupported at the time of the act, the burden of justification lies with the party proceeding. Where the effects are revisable at proportionate cost, or where the transmitter's account of them is supported, the ordinary presumption in favour of transmission applies.

Three terms require fixing. A transmission for this purpose includes a decision to withhold, for the reason given in Claim 17.1 and developed in Claim 17.4. Substantial irreversibility is relative to the means of revision the design retains, in the sense of Proposition 17.2, and to the interval over which the effects are assessed, and both are to be stated by the party invoking the criterion. And an account is unsupported where the transmitter has no evidence bearing on the conditions of §5 for the parties his transmission will reach, which under open publication is the ordinary case and is not by itself a reason against publishing.

The criterion is deliberately weaker than a bar. It allocates a burden and specifies what discharges it, and the discharge is stated in §18. Its function is to identify which party must give an account, which is the question that arrangements ordinarily leave unsettled and which determines the outcome in contested cases.

17.4 The Guard Against a Presumption in Favour of Withholding

This subsection states the guard that prevents Criterion 17.3 from operating as a presumption in favour of the course a holder already follows.

Claim 17.4. (Symmetry of the criterion across transmission and withholding). Withholding produces effects, and its effects are sometimes irreversible: an occasion passes and the analysis was unavailable; a party who would have used the material has proceeded without it; the material is lost with its holder. A criterion stated over the act of transmitting alone would therefore favour whichever course a holder is already following, and would function as a presumption in favour of withholding under the appearance of caution.

Criterion 17.3 is accordingly stated over courses of action and not over transmissions, and a party invoking it against a proposed transmission accepts its application to his own continued withholding. The requirement is symmetrical in the same way as its counterpart in the assessment of consequential decisions taken on evidence whose currency is in question, and for the same reason: an asymmetric criterion in a domain where both courses carry irreversible effects is a criterion for inertia.

The symmetry has a further consequence for this paper's position. Under the received doctrine, withholding is the safe course and requires no justification, so a holder who withholds has nothing to answer for. Under Criterion 17.3 he has the same account to give as the holder who transmits, addressed to the same conditions and assessable by the same means. That equalisation is a large part of what the position of Part VII amounts to in practice.

Part VII. The Position

18 Foreseeability and the Attribution of Consequences to the Transmitter

This section states the first of the three requirements that constitute the paper's position. Its objective is to establish that a transmitter stands in an attribution relation to what follows from his transmission, to fix the extent of that relation, and to state what it requires of him at the time of the act. The section states the ground of the attribution, identifies the three factors that bound it, states the requirement and what discharges it, and distinguishes the requirement from the assessment rejected in Part III. The section's claims are normative and rest on premises stated with them, together with the descriptive results of Parts II and IV.

18.1 The Ground of the Attribution

The received doctrine asserts, in the vocabulary of consequence returning along a channel, that a transmitter acquires a share in what his recipient does. The assertion is correct in a form the doctrine does not state, and its correct form follows from Part II.

Claim 18.1. (The transmitter's position in the production of an outcome). A transmitter who supplies a framework contributes a component of the capacity by which his recipient subsequently acts. Where the recipient's act would have been unavailable to him without that component, the transmitter is a participant in its production, and the recipient's independent decision to act does not by itself terminate the relation.

The claim states a contribution and not a liability, and the distance between them is the subject of a developed literature on the attribution of outcomes in systems with many contributors, on which this section relies without restating it. Two familiar constraints carry over. A contribution that any number of other parties would have supplied is a weaker ground of attribution than one that was available from few. And a contributor who supplied a general capacity stands differently from one who supplied a capacity fitted to the act in question.

The bearing on the received doctrine is that its second protection, stated in Claim 2.4, was tracking something real. The doctrine's error lies in the response it derives, since a party who stands in an attribution relation has thereby acquired an obligation to attend to what follows, and the doctrine converts the same premise into a reason to avoid entering the relation at all.

18.2 The Bounds of Foreseeability

This subsection fixes the extent of what a transmitter is able to foresee, since a requirement addressed to foreseeable consequences is stateable only within that extent. Three results established earlier bound it: the underdetermination of a recipient's interpretation in Claim 7.2, the character of propagation recorded in §4, and the length of the causal chain.

The first is the underdetermination of a recipient's interpretation. Claim 7.2 established that a recipient whose interpretive resources are inadequate produces a reading from other resources, and that the transmitter can predict the form of the mechanism while remaining unable to predict its output in any particular case. The second is the character of propagation. The material examined in §4 establishes that the parties a published transmission reaches are determined by processes the transmitter neither controls nor observes. The third is the length

of the causal chain, since a framework is used, adapted, taught onward and recombined, and the transmitter's contribution to a distant outcome is real and small.

Claim 18.2. (The structure of the bound on foreseeability). What a transmitter can foresee is the class of uses a framework affords, the classes of parties a chosen setting distributes to, and the mechanisms by which reception fails. What he cannot foresee is which parties receive it, what readings they produce, and what particular acts follow. The bound is therefore a bound on particulars and leaves the classes available, and a requirement addressed to the classes is satisfiable.

The claim is what makes the position stateable. A requirement to foresee particular consequences would be unsatisfiable and would collapse into a counsel of abstention, which is the route by which the doctrine reaches its conclusion. A requirement addressed to what a framework affords, to whom a setting distributes, and to how reception fails is a requirement about matters the transmitter is in a position to consider and about which he can be shown to be wrong.

18.3 The Requirement

This subsection states the first of the three requirements constituting the paper's position, together with its three elements, what discharges it, and what fails to.

Requirement 18.3. (The transmitter's account at the time of the act). A transmitter owes, at the time of a transmission, an account of what it affords, of the parties his chosen setting distributes it to, and of the reception failures his chosen form invites; and where the transmission would produce substantially irreversible effects in the sense of Criterion 17.3, he owes that account in a form that admits of being shown to be wrong.

The requirement has three elements and each answers to a result established earlier. The account of affordances answers to Definition 6.4, since a portable body of knowledge affords its uses to any holder and a self-protecting one does not, and the transmitter is in the best position to know which he holds. The account of the setting answers to the objection recorded in §9, that a choice of publication setting is a choice about distribution and is part of the act. The account of reception failure answers to Proposition 5.6, since a transmitter who has considered which of the three conditions his intended recipients fail has thereby identified the work that falls to him.

What discharges the requirement is an account, stated by the transmitter, which a party who disagrees can engage. What fails to discharge it is a declaration of good intention, which is unfalsifiable, and a declaration that consequences are the recipient's affair, which is a denial of Claim 18.1 and requires its own argument.

18.4 The Distinction from the Rejected Assessment

This subsection distinguishes Requirement 18.3 from the readiness assessment that Part III found defective, since the two might otherwise be taken for versions of one another. Requirement 18.3 is addressed to the transmitter's own conduct and is stated over classes, and both features carry the distinction.

Claim 18.4. (The properties distinguishing the requirement from the readiness assessment). Requirement 18.3 is discharged by an account the transmitter states publicly, which a third party may examine and a recipient may contest; its subject is what the transmitter does and what his material affords; and its failure is visible in the absence of the account. The readiness assessment is discharged by a private finding about a recipient, examinable by nobody, whose failure is invisible and whose contestation confirms it.

The two therefore differ in the property that Part III found decisive. An arrangement whose determinations can be contested by the parties affected is capable of correction, and one whose determinations cannot is not. Requirement 18.3 relocates the entire content of the doctrine's concern into a form that possesses the property, and that relocation is the paper's central claim.

A limit belongs with this. The requirement is satisfiable by a transmitter who states an account and proceeds, and it does not by itself determine what he should conclude. Its work is to place the question in a form in which the answer can be assessed and the answering party identified. Criterion 17.3 supplies the allocation of the burden, §19 supplies the continuing obligations, and the determination in a particular case remains the transmitter's to make and to answer for.

19 Vigilance, Revisability, and the Continuation of the Transmitter's Duty

This section states the second and third requirements of the position and supplies their theoretical ground. Its objective is to establish that the transmitter's obligation continues after the act, that it takes the two forms of attention to what follows and retention of the means of revision, and that these follow from the character of a normative arrangement of the kind proposed. The section states the requirement of attention and what it demands, states the requirement of retained revisability and its cost, gives the ground of both in the historical continuity and structural revisability of a generative relational ethics, and applies the second of those properties to the position itself. The section's claims are normative and their premises are stated with them.

19.1 The Transmitter's Attention After the Act

Requirement 18.3 is addressed to the time of the act and is bounded by Claim 18.2. The bound is a bound on what can be known in advance, and the material that lies beyond it becomes available afterwards.

Requirement 19.1. (Attention to the consequences of a transmission). A transmitter owes attention to what in fact follows his transmission, proportionate to the irreversibility of its effects and to the extent of his contribution under Claim 18.1; and where what follows departs from the account given under Requirement 18.3, he owes a revision of that account.

The requirement rests on a simple relation between the two: an account bounded by what could be foreseen is corrigible by what subsequently occurs, and a party who declines to look has converted a bounded account into an unbounded excuse. The distinction is the one available in any domain where an actor proceeds on an estimate, and its content here is modest.

What is required is that the transmitter remain in a position to learn what his transmission produced, which for most transmissions means remaining reachable by parties who received it and attending to what they report.

Two limits are stated with the requirement. Attention is owed in proportion, and a transmission with revisable effects and a small contribution generates little. And attention is owed to what follows, which is a matter of the transmitter's information and not of his control, so a transmitter who has attended and found an outcome he cannot alter has satisfied the requirement and acquired an obligation under Requirement 19.2 only to the extent that means remain to him.

19.2 Retention of the Means of Revision

This subsection states the third requirement of the position, which concerns what a transmitter keeps available to himself after the act, and states why the requirement is comparative in form.

Requirement 19.2. (Retention of the means of revising the terms of transmission). A transmitter owes the retention of whatever structural means of revising the terms of his transmission are compatible with the access he provides, and owes a preference, among designs providing equivalent access, for the design retaining more.

The requirement is stated in this form because of the opposition identified in Proposition 17.2. Revisability and access are opposed across the range of designs, and a requirement to maximise revisability would licence retention of the material, which §15 showed to reinstate the rejected assessment. The requirement is therefore comparative and constrained: among designs supplying the access the transmitter has decided to supply, he takes the one retaining more means of revision.

The instruments examined in Part VI supply the content. A term attached to a transmission retains what the term provides. A reciprocal condition retains an interest in the terms of onward transmission and does so without any determination reserved to the holder, which is why Claim 14.6 identified it as the instrument best fitted to the position. An administered interval retains disposition during the interval. A record of what was transmitted, to whom, and on what terms retains the ability to know what would have to be revised. And the maintenance of a relation with recipients retains the only means of revision that operates on a competence in place of an artifact, since a framework already acquired can be corrected only through the party who holds it.

The cost is stated plainly. Each of these obligations falls on the transmitter, none of them is enforced by anything except his own undertaking, and a transmitter who declines them is subject to no sanction. This is a general feature of the position and it is examined in §20.

19.3 Custody and Dominion in the Rights a Transmitter Retains

Requirement 19.2 asks a transmitter to retain means of revision, and the means available in law are rights: in copyright, in the terms of a licence, and in the remedies attaching to their breach. That raises a tension with the ethical position the requirement is ordinarily held to express, in which a party who has produced something declines to hold it as property. The

classical statement of that position is *Daodejing* 51, and in nearly the same words *Daodejing* 10: 生而不有, 为而不恃, 长而不宰, *it gives life and does not possess, it acts and does not depend on that, it raises and does not rule*. The image the same text attaches to the posture is water, which benefits all things without contending with them (*Daodejing* 8), and which supports what grows without requiring that what grows belong to it. This is the ethical spirit of the deposit practice recommended in §13, and it may be put in a phrase: the origin is recorded and the destination is left unpossessed.

Taken as a counsel to hold no rights at all, that position removes from the transmitter every means of acting when what he produced is exploited or turned to harm. The two commitments therefore appear to be in conflict, and the conflict is resolved by distinguishing two things that the word ownership covers.

Definition 19.3. (Dominion and custody in a holder's relation to what he has produced).

A holder stands in dominion to what he has produced where his rights function to determine how it may be understood, developed and used by others, so that its future is subject to his authority. He stands in custody where his rights function to preserve a capacity to act against exploitation and harm, leaving inquiry, criticism, revision and independent development unrestricted.

Claim 19.4. (The object of a commitment against possession). A commitment against possession bears on dominion and leaves custody intact. Declining to hold a body of knowledge as property is a refusal to make its future subject to one's authority, and it is compatible with retaining the legal standing required to act where a specific work or relation is exploited or turned to harm. Epistemic non-possession is therefore distinct from legal abandonment, and a position conflating them leaves a transmitter who has accepted it without the means of discharging Requirement 19.1.

The distinction has a consequence for what a transmitter should say about his own work, and for what he should decline to say. A statement that the author claims no rights of any kind states legal abandonment and gives away the capacity Claim 19.4 identifies. A statement that the author claims no exclusive standing over the ideas discussed, holds no claim to priority in their origination, and retains such legal rights as remain in support of attribution, responsible use, and action against exploitative or harmful appropriation, states the position exactly. The difference is not verbal, since the first is irreversible and the second is not.

It should be recorded that the instruments available carry this distinction imperfectly. Copyright attaches to the expression of a work and reaches ideas, methods and procedures scarcely at all, so a transmitter who retains it has retained less than he may suppose. The general content licences govern copying, adaptation and redistribution and supply no prohibition on harmful use; the restriction on commercial use available in some of them addresses a category that overlaps with harmful use without coinciding with it. What the instruments supply is standing, which is the capacity to be a party to a proceeding, and standing is a precondition of action and not an assurance of outcome.

19.4 The Residue of Misuse and the Demand for a Guarantee

This subsection answers a question that the received doctrine presses against any position of the kind advanced here, and that the account of custody given above leaves standing: whether any of these arrangements prevents misuse.

Claim 19.5. (The unavailability of a guarantee against misuse). No arrangement examined in this paper reduces the probability of misuse to zero. Publication places the material beyond recall by Claim 17.1; retained rights supply a remedy after the event and only against parties within reach of a forum and worth proceeding against; technical restriction on access is defeated by parties willing to spend against it; and withholding is defeated by leakage, by the loss of the material, and by independent rediscovery, since a body of knowledge that a setting is ready to produce is ordinarily produced more than once. A demand for a guarantee is therefore a demand no course satisfies, including the course of transmitting nothing.

The claim is the reason the position of this Part is stated as a set of requirements on conduct in place of a set of assurances about outcomes. An ethics organised around a guarantee collapses into withholding, since withholding presents as the only course that appears to supply one; and the appearance is false, so the collapse purchases the harms of Claim 14.1 without obtaining what it was for.

What is available in place of a guarantee is a coverage argument, and it is worth stating in the form that makes its limits visible. The instruments reach different populations. Legal remedy reaches parties who are identifiable, within a jurisdiction, and holding something worth recovering. Attribution and provenance reach parties who are sensitive to standing among those they work with. Community accountability reaches parties who wish to remain in a community. Access restriction and staged release reach parties unwilling to spend much effort. Norms and stated terms reach parties acting in good faith who would otherwise not have considered the question. Each layer catches a population the others miss, and no layer, and no combination of them, catches a party who is determined, unreachable, and indifferent to standing.

Claim 19.6. (The reformulated objective). The objective available to a transmitter is the reduction of foreseeable misuse, the retention of a capacity to act where misuse occurs, and the preservation of the generativity that the transmission was for; and these three are in tension, since each measure that reduces misuse also reduces uptake by parties the transmission was intended to reach. A transmitter's task is the management of that tension across the instruments available to him, conducted openly and revised as its results come in.

Claim 19.6 is the point at which the position of this paper meets the practice of anticipatory and adaptive arrangements in the governance of research and innovation, in which a determination is taken to be provisional, monitored, and revised as conditions develop, in place of being settled once at the outset. The correspondence is close enough to be worth stating: Requirement 19.1 and Requirement 19.2 describe, for an individual transmitter, the posture that those arrangements describe for an institution.

19.5 Historical Continuity and Structural Revisability

This subsection supplies the theoretical ground of the requirements stated in this section, and connects the position to the framework within which it was developed. The requirements of attention and of retained revisability have a common ground, and stating it also explains where the received doctrine went wrong.

An ethics of transmission is not a set of timeless rules recovered by reflection. It is an arrangement carried by practices, formed in a history, and answerable to conditions that change. The doctrine examined in this paper is such an arrangement: it was formed in settings where transmission was personal, where the transmitter knew his recipients, where the artifacts were scarce and their reproduction costly, and where the relation between the parties persisted over years. Every one of those conditions has been altered, and the doctrine's counsel has been carried forward unchanged into a setting where a transmission reaches parties the transmitter will never encounter and continues to reach them after his death.

Claim 19.7. (The two properties of a transmission ethics adequate to its object). An adequate ethics of transmission possesses historical continuity, in that it stands in a traceable relation to the arrangements it succeeds and can say what in them it retains and what it discards; and structural revisability, in that its own terms are held open to correction as the conditions that occasioned them change. The first is what distinguishes a position from an invention, and the second is what distinguishes it from a doctrine.

This paper has attempted the first throughout, retaining the doctrine's observations in Claims 5.2, 6.2, 7.3, 9.2 and 10.1 and discarding its readiness assessment in §8, with the grounds stated in each case. The second is the subject of the following subsection.

19.6 The Application of Revisability to the Position Itself

A position requiring transmitters to retain the means of revising their transmissions, and offered as an ethics whose terms are held open, is subject to its own requirement. The application is not a formality, since Claim 8.3 identified insulation from correction as the decisive defect of the arrangement this paper rejects, and a position with the same defect would be no improvement.

Claim 19.8. (The conditions under which the position would be shown to be mistaken). The position advanced here is shown to be mistaken in its central claim if the requirements of §18 and this section prove to be satisfiable by an account that no party can assess, so that they reduce in practice to the private determination they were introduced to replace. It is shown to be mistaken in its scope if bodies of knowledge are identified whose transmission is harmful to recipients under conditions that no account stated in advance could have identified and no attention afterwards could have corrected. It is narrowed if the arrangements of Part VI prove to depend for their operation on an assessment of recipients conducted informally and unrecorded. And it is refuted in its application to a domain if the deposit of an analysis in advance of its occasion is shown in that domain to have no bearing on what is available when the occasion arises.

Each of the four is checkable and none is checkable from an armchair. The first is a ques-

tion about the practice of parties who adopt the requirements, the second is a question about particular bodies of knowledge, the third is a question about the operation of institutions that are open to study, and the fourth is a question about the history of institutional change in a domain. Stating them is the discipline that Claim 8.3 requires of any position in this area, and the paper's own criterion is not exempt from it.

One further term of the position is recorded here, following Claim 16.2. The requirements are stated over a transmitter's conduct without reference to the position of the parties relative to one another, and §16 established that the warrant for a restriction depends on that position. The position is therefore to be read as applying to a holder in the stronger position with respect to his recipients, which is the case the received doctrine addresses and the case in which its counsel is most often invoked. Its application where the holder is the weaker party, and the material is constitutive of his own practices, falls under the considerations of §16 and is left open here.

20 Scope, Residue, and Directions

This closing section states what the paper establishes, what it declines to establish, the weaknesses of the position it advances, and the questions it leaves open. Its objective is to fix the paper's claims at the strength its arguments support, and to identify for a reader the points at which the position is most exposed. The section proceeds in four parts corresponding to those four objects, and the weaknesses are stated by the paper in place of being left for its readers to locate.

20.1 The Established Results

Six results are established. The received doctrine's core observation is granted and stated precisely in Claim 5.2. The doctrine's single notion of readiness is resolved into three conditions with different remedies in Proposition 5.6, which shifts the burden the doctrine places on the receiver onto the transmitter in the representational case. The readiness assessment is found defective in its administration, in its common implementation, and in its criterion, by Claims 8.1, 8.2 and 8.3, with the third identified as the reason for replacing the assessment. The tradition's cost claim is corrected in Claims 9.1 and 9.2, locating the hostility it reports in the structure of an unreciprocable transmission and identifying three alterations that dissolve it. The thesis of Claim 10.1 is retained and separated from the necessity of adversity in Claims 11.1 to 11.3. And a position is stated in Requirement 18.3, Requirement 19.1 and Requirement 19.2, with the burden allocated by Criterion 17.3.

A further result concerns the rights a transmitter retains. Definition 19.3 and Claim 19.4 separate dominion from custody and establish that a commitment against possession bears on the first and leaves the second intact, so that epistemic non-possession is distinct from legal abandonment; and Claims 19.5 and 19.6 establish that no course available to a transmitter, including transmitting nothing, supplies a guarantee against misuse, which is why the position is stated as requirements on conduct and not as assurances about outcomes.

A further result concerns the harms at issue. Claim 14.1 extends the doctrine's three harms to the seven that arise where propagation is unbounded, and Claim 14.2 finds the two most

consequential in that setting to be hostile use and occupation of a subject by an early artifact whose terms obstruct its own repair, of which the doctrine addresses one and could not have seen the other.

Two subsidiary results carry beyond the paper's immediate subject. Claim 9.4 separates access from advocacy and reconciles the doctrine's defensible content with the commitments of open knowledge practice. And Claim 15.3 identifies the property shared by the transmission arrangements that have proved workable, which is that their conditions bind the transmitting party's process and terminate in availability.

20.2 The Matters Left Undetermined

The paper establishes nothing about the religious and philosophical traditions from which the doctrine descends, and its treatment of their formulations is confined to what they assert about transmission. It supplies no procedure for deciding whether a particular transmission should occur, and the ground for declining is that the determination depends on features of a case that no general criterion reaches, so that a procedure offered here would either be empty or would reinstate a general assessment under a new name. It offers no measure of the quantities its criterion refers to, since irreversibility, contribution and proportionate attention are stated as comparative notions and their measurement in a domain is work for that domain. And it takes no position on how far the arrangements of Part VI succeed in their own terms, having assessed their designs and not their effects.

20.3 The Weaknesses of the Position

This subsection states the weaknesses of the position advanced in Part VII, in place of leaving them for a reader to locate. Four are recorded.

The requirements are self-imposed. Requirements 18.3, 19.1 and 19.2 bind a transmitter who undertakes them and are enforced against a transmitter who declines them by nothing at all. The paper's answer is that the requirements are at least visible in their breach, since an absent account is an observable fact where a private finding is not, and that answer is weaker than the objection. What would move a transmitter to bind himself lies outside the argument advanced here.

The account required may be pitched at a level that renders it unassessable. A transmitter may state that his material affords a broad range of uses, that his setting distributes to a general audience, and that reception may fail in various ways, and such an account satisfies the words of Requirement 18.3 while supplying nothing a party could contest. Claim 19.8 records this as the condition under which the position would be shown to be mistaken in its central claim, and the paper has no argument establishing that it will not obtain.

The position is stated for a holder in the stronger position, and §16 left open its application to the case where the holder is the weaker party. That is a substantial gap and not a boundary, since the cases falling on the other side of it are among the most consequential in contemporary practice.

The treatment of institutions in Part V rests on a body of work about how institutional change proceeds, and Claim 13.1 asserts a condition of availability that is supported by that

work and is contested within it. A domain in which reorganisations proceed without prior articulation of the successor would narrow Claim 13.2 in that domain, and the paper's practical recommendation to deposit early is correspondingly weaker there.

20.4 Self-Legislation by the Transmitter and the Limits of Its Demand

This subsection identifies a feature shared by the received doctrine and by the position advanced in its place, states the objection that follows from that feature, and separates the components of the position that may be carried by arrangements from the component that remains with the individual transmitter. The feature has been present throughout the paper and is stated here because the question it raises is the paper's principal residue.

Claim 20.1. (The self-legislating character of the doctrine and of the position replacing it). The doctrine of restricted transmission is a self-legislation of the transmitter. No external body issues its rule, none verifies compliance with it, and none is available to a party who considers it misapplied; the transmitter surveys the range of consequence available to him, determines what follows from acting and from declining to act, and binds himself. The position advanced in Part VII alters what the transmitter determines and leaves the self-legislating form unchanged, since Requirements 18.3, 19.1 and 19.2 are addressed to him, discharged by him, and enforced by nothing else.

Two consequences follow, and they run in opposite directions.

The first is favourable. Self-legislation is what makes any requirement statable in this domain at all. Claim 14.4 recorded that a condition on purpose requires an authority over purposes, that no such authority was available to the movements that considered constituting one, and that the attempt to reinstate it through licence terms reproduces the holder's discretion at every use. A requirement addressed to the transmitter's own conduct escapes the difficulty by asking for no authority over anyone.

The second is unfavourable and is the sharper of the two. A régime resting wholly on self-legislation demands of every transmitter a capacity to survey consequences, an interest in attending to what follows, and a willingness to bear the cost of both. Those are unevenly distributed, and they are least available to transmitters with the least time, training and standing. A régime of that kind therefore protects in proportion to the conscientiousness of individuals: the careful bear the cost, the careless bear none, and the harms of Claim 14.1 fall on parties who took no part in either. The first weakness recorded in §20 is the same observation stated from the transmitter's side.

The question this generates is one of allocation. If self-legislation is too much to require of every transmitter, what part of the requirement can be carried by platform rules, by disciplinary and professional standards, by national regulation, by international arrangements, and by law; and what part must remain with the individual? The paper's answer is partial and takes the form of a distinction.

Claim 20.2. (The delegable and the non-delegable components of the position). The account required by Requirement 18.3 is delegable, since a declaration of affordances, of intended distribution, and of anticipated failure modes can be made a condition of deposit,

stated in a fixed form, and inspected without subject-matter expertise. The retention of revisability required by Requirement 19.2 is delegable, since defaults determine it: the terms a platform offers, the licences it presents first, its retention of versions and of provenance, and its provision for correction in place all fix what remains revisable, and they fix it for every transmitter at once. The attention required by Requirement 19.1 resists delegation, since attending to what in fact follows requires the party who knows what his account claimed and can recognise a departure from it.

The claim, if it holds, changes the practical shape of the problem. Two of the three requirements are properly institutional and are badly served by being left to individual conscience, since a default fixes them for a population and a conscience fixes them for one case. The third is properly individual and is badly served by being institutionalised, since a body that monitors on a transmitter's behalf receives reports and lacks the comparison that makes a report informative.

Four levels are available for the two delegable components, and each carries a characteristic advantage and a characteristic failure. A platform rule is cheap, uniform across its users, and revisable by the platform, and it binds only those who deposit there, so that a transmitter dissatisfied with its terms moves. A disciplinary or professional standard can require what no law could verify, since the community assessing compliance possesses the expertise, and it binds members and releases everyone else. A national rule binds within a jurisdiction and can compel, and propagation crosses jurisdictions, so that a rule of this kind displaces an activity more readily than it prevents it, and it must define in advance a class of material whose boundaries age. An international arrangement addresses the displacement and is slow, is exposed to capture by the parties it governs, and carries a specific danger for this subject matter, since a determination made at that scale about which material may circulate to whom is the readiness assessment of Part III conducted by states, with the defects of Claim 8.1 and the record those defects predict.

The paper takes this no further, and the reason is worth stating. An allocation among those levels depends on the domain, on the harms most salient in it, and on which bodies exist there and command assent. What the paper supplies is the distinction of Claim 20.2, which says which of the requirements is a candidate for delegation, and Claim 15.3, which says what form a delegated requirement must take: it binds the transmitting party's process, it is stated in advance, it is uniform across recipients, and it terminates in availability. A rule satisfying those four conditions may be written at any of the four levels. A rule failing them reinstates at the level of an institution the determination that Part III found defective at the level of a person, and it is the more dangerous for being harder to escape.

20.5 The Open Questions

The enquiry leaves the following questions open, in descending order of tractability.

1. Whether the convergence identified in Claim 15.3 is driven by the structure of the problem or by the shared institutional setting in which the arrangements arose, which is answerable from the historical record of their formation.

2. Whether the account required by Requirement 18.3 can be made a condition of deposit in a fixed form and inspected at the scale of a platform, and what the form would have to contain to remain informative without becoming an obstacle to deposit.
3. What a default set of licence terms would have to provide to address the occupation harm of Claim 14.1 at the scale of a population, given that the harm is produced by a conjunction of sequence and terms that no individual transmitter is placed to observe.
4. Whether an administered interval of the kind examined in §15 generalises beyond the domain that produced it, and what determines the interval where no repair is pending.
5. The size of the residue asserted in Claim 10.1, which the literature on tacit knowledge has approached and has not settled, and on which the demandingness of the position depends.
6. The composition and overlap of the populations each instrument reaches, per the coverage argument of §19, and the size of the residue that none reaches, on which this paper offers an ordering and no measurement.
7. Whether the attention required by Requirement 19.1 is genuinely non-delegable, as Claim 20.2 asserts, or whether an institutional proxy exists that preserves the comparison between what an account claimed and what occurred.
8. How a rule at any of the four levels defines in advance the class of material it governs, given that such classes age, and which body revises the definition without acquiring the discretion Claim 14.4 records as the thing to be avoided.
9. Whether an international arrangement can supply an interoperable minimum without reinstating the readiness assessment of Part III at the scale of states, which is the danger identified in §20 and the one this paper is least able to assess.
10. A treatment of transmission ethics for a holder in the weaker position, over material constitutive of his own practices, which requires a different account of the parties and of the record between them, and which is the natural continuation of this paper.
11. The conditions under which a requirement addressed to a transmitter's own conduct acquires the standing of a practice, which is a question about the formation of norms and on which the position remains inert until it is answered.

The paper closes on the position it has reached and on the conflict that occasioned it. A doctrine holding that transmission is withheld from the unprepared, and a body of practice holding that material is placed where any party may take it, appear to be incompatible, and each is ordinarily maintained by declining to examine the other. On the separation of access from advocacy in Claim 9.4 they are compatible, since the doctrine's defensible content bears on directing material at parties who have not sought it and the platforms provide for parties who come looking. On the classification of Claim 15.3 the arrangements those platforms have built are already answering the doctrine's concern in a form the doctrine could not state, by

conditions binding the transmitting party's own process. What the two bodies of experience lacked was a language in which they could be set beside one another, and supplying one has been this paper's principal object.

The doctrine of restricted transmission assembled a set of sound observations about the dependence of reception on the receiver, about the reversion of an unsupported reorganisation, about the hostility that an unreciprocable benefit attracts, and about the insufficiency of an artifact for a competence; and from those observations it derived a determination, made by the holder, in advance, about another party, which is the one element of the doctrine that cannot be examined by anyone the determination affects. Replacing that determination with an account the transmitter states, an attention he continues, and a means of revision he retains preserves everything the observations support and removes the element that made the doctrine, across its long history, so readily available to purposes its formulators would have disowned.

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