

GROUP KNOWLEDGE ANALYZED

I. Introduction

One can speak of knowledge in an impersonal sense: It is accepted as knowledge that copper expands when heated, that the capital of Finland is Helsinki, and that no one under 18 years of age is entitled to vote in national elections. Such knowledge is not an abstract entity floating around in some kind of Platonic "third world". Rather it is knowledge that some actual agent or agents actually have or have had as contents of their appropriate mental states (belief states) and that others on this basis can have as their knowledge. People find out things either by themselves or together, and often what they come to believe about the world is true and more or less well-grounded, thus knowledge much in the sense of traditional epistemology. We may say then that there is *knowledge in groups* or communities, e.g. in the scientific community, that such and such is the case, and that in some cases *groups as groups know*; and in all these cases there must be or have been actual knowers.

Accordingly, there is knowledge available in social groups, and this knowledge can be "picked up" and had by individual members as knowledge. More broadly, there is public knowledge available that can be used innovatively to construct new items of knowledge. Knowledge that *p* in a group must be justified in the sense that the group is (objectively and socially) justified in its acceptance of *p* and that, therefore, the truth of *p* is grounded. In the case of personal knowledge, the knower is in addition required to be justified in having that item of knowledge in the sense of being able to reason and act adequately in virtue of his knowledge.

Knowledge in the personal case involves abilities and skills at least in the case of ordinary knowledge. If a person knows that *p* he must have reasons for the truth of *p* and be able to use *p* in his reasoning and action – at least to some extent. I will below regard it as right to say that, at least

in the ideal case, personal knowledge entails justified true belief, although this is not strictly a defining feature of knowledge and although the converse entailment is not claimed to hold and indeed can be assumed not to hold (as e.g. Gettier paradoxes clearly indicate).

I will require below that the "full-blown" knower has the concept of knowledge, viz. belief with good reason, in the full case of knowing, although admittedly small children and higher animals may be taken to "know" – in a *shallow* sense not involving having the concepts of knowledge, belief, or good reason. The shallow sense must still involve some of the right overt behavioral and "reliability" aspects of knowing.

Let me now discuss some of presuppositions of my present account. In my setup there will be a putative knower and an evaluator of knowledge, indeed in principle an indefinite amount of evaluators. A knower, be it a social group or a single agent, will be considered mainly from the point of view of the epistemic criteria – or epistemic "perspective" – it employs. An individual agent can be taken to represent a social group, with a certain epistemic perspective, of which he is perhaps the only actual member. We can thus speak of groups both as knowers and as attributors of knowledge; and we can take groups to represent epistemic perspectives (criteria and standards of epistemic justification) and be the social "carriers" of epistemic perspectives.

As said, I will be discussing knowledge from an external evaluator's point of view. Thus, I assume that there is an external evaluator that can make knowledge judgments or knowledge attributions of the kind "Agent *g* knows that *p*" (where *g* may stand for a single or collective agent) or "In group *g* *p* is known". In the epistemology I am sketching the most central statements, basic knowledge *judgments* will be statements of *acceptance* of the kind $A(g^*, K(g,p))$. This relational statement reads "evaluator

g^* judges that g knows that p ", where g^* in general stands for a social group, e.g. the scientific community at a certain time point, and g is a social group or a non-collective agent to which knowledge is being attributed. In the case of a reflective agent g , g^* can be g (viz. g judges that it knows that p). In this paper g^* is typically assumed to stand for a more comprehensive (both concerning its size and its justificatory capacities) group than g . Thus we can say that in our treatment g^* is "epistemically wiser" than g . (This "progress" assumption is not, however, needed for our most basic analyses.) The evaluator group g^* need not be a socially existing group – it need only be a placeholder for an epistemic perspective that is in general different from the one g incorporates.

The above kinds of acceptance statements of the basic form $A(g^*, K(g,p))$ are pragmatically central, for they serve to make epistemology practical and humanly accessible. To see why, we can assume that a basic A -claim entails justified true belief: $A(g^*, JB(g,p) \ \& \ p \text{ is true})$, that is, g^* claims that g justifiably believes that p and that p is true. (Note that here p thus is not required to be true but only to be accepted as true.) To have the converse statement conclusive knowledge-dependent justification will have to be involved, in part in order to block Gettier paradoxes (cf. Gettier, 1963, Rosenberg, 2002). This is because otherwise a wedge can be driven between justification and the truth of p . Conclusive justification will be understood to entail that p is true.

As to the truth requirement, I am assuming in my present treatment that realism about the world is the right view. It is a presupposition of all human thinking that there is an external world in which things are thus and so. Thus there are, colloquially speaking, "truths" in the world. Given this, the claim that a proposition p is true makes sense and can be instrumentally useful. So it makes sense to claim that it is true that President Bush defended his Iraq policy today or that Einstein's general relativity theory is true. However, all claims about truth are fallible, they ultimately depend on some human beings' judgments. Thus a traditional knowledge ascription such as that g knows that p (which assumes that p is true) must always be viewpoint-

dependent in the sense that there is an ascriber-evaluator with its background knowledge and evaluative capacities. Thus " p is true" in the classical definition of knowledge is pragmatically feasible only when it appears in an intentional context such as is the context " g^* claims that $JB(g,p)$ and that p is true" (assuming here that g^* has adopted part of the classical account of knowledge).

What we now have arrived at is a kind of relational view of knowledge, as both g and g^* relativize knowledge to epistemic perspectives, the attributee generally less explicitly than the attributor. A central point in the defense of this view is that both truth and justification are problematic notions in a way notions like belief or want or, generally, properties of the mind-external world are not. For instance, a claim like "grass is green" is normally taken to be an objective claim which is not highly context-dependent (as compared with justification, for instance) and can be dealt with in epistemic contexts without relativizing it to an agent making the claim, and the same can mostly be said about attributions of psychological states to people, e.g. "John believes that grass is green"; they are objective enough for the purposes of epistemology. In contrast, an epistemic, justification-involving claim such as "John knows that grass is green", is a more problematic notion, because its application is dependent not only on situational context but on epistemic background perspective (especially criteria and standards of justification). Good epistemic reasons for a layman may be poor reasons for a specialist. (A layman may justifiably believe in a newspaper article claiming that taking large doses of vitamin C is good for one's health whereas a specialist justifiably might not think so and might suspend judgment about the matter.)

The problem with truth may not be so much about the unclarity and relativity of the notion but rather its applicability to central cases where we wish to speak of knowledge. Thus, most if not all past and extant scientific theories can be argued to be known to be false (or possibly false), yet we speak of scientific knowledge at least in the case of some current theories. While scientists accept that there are refuted predictions it is still possible that the testing on which such claims of refutation

have been made has been faulty. Claims about truth can accordingly be taken to be in flux: it always factually – and not only logically or conceptually – possible that a claim saying that certain things about the external world are thus and so is false (any data are thus possibly false). Given this view (which is commonly endorsed and which I endorse), the best way to deal with the meant kind of cases without giving up the strict, truth-entailing classical notion of knowledge may be to speak of knowledge in terms of justified acceptance claims such as “g has accepted theory T as true” (or “T is acceptable as true for g”) on the ground that T has survived a reasonable amount of justification-giving scientific testing. (Acceptance here must minimally entail that g lacks the belief that $\neg p$ is true.) The present view applies especially to approximate and vague knowledge.¹

I will adopt the acceptance language to some extent below, even if I will also, compatibly, speak of knowledge and truth in a rather classical way – although always embedding knowledge in a social context, in a context involving an evaluator. This gives a unified way of dealing with knowledge and it seems also to capture explicitly some factors that in the present epistemological literature have been suggested as relevant and important. I will not assume that knowledge is reducible to something else and I will thus assume – partly in view of the Gettier paradoxes and the discussion in the literature during the past few decades – that at the present stage of discussion it is best to regard knowledge as a primitive and central notion in its own right. I will try to elucidate knowledge and show how it functions in actual life and also that in general it involves social dependencies – at least to social epistemic perspectives. As said, for the purposes of this paper I will assume that knowledge entails justified true belief (or acceptance). However, we need to deal with truth only in the context of claims about truth, as we view g’s knowledge from the point of view of g* and discuss g*’s claims about g’s knowledge. Furthermore, even within this setting, the truth requirement can be relaxed (e.g. in the above kind of scientific cases) or then a loose common sense notion of truth or correct assertability can be used. (We may wish to be able to say and make sense of statements

like “At time t the scientific community g had arrived at the knowledge that p but at a later point of time, t’, p was refuted and the knowledge claim did not any more hold true”.) The belief (or acceptance) requirement must also be relaxed to some extent (cf. e.g. the case of non-operative members when groups know as groups – Section IV below).

I will not explicitly discuss the Gettier paradoxes in this paper, as these paradoxes are concerned with the reductive, classical definition of knowledge. My non-reductive approach concurs with Gettier’s (1963) comments on his paradoxical examples: There is no knowledge in certain cases in which the three classical clauses are satisfied at least as long as non-circular justification is meant; and such non-circular justification must be meant if a reduction of knowledge is at stake (contrary to my approach).

To recapitulate and expand, justification is dependent on the social group in question in the sense discussed above. Relative to one group, say the original attributee g, a claim may be justified while the epistemic standards of an attributor group, g*, that might not the case. Above g* was taken to stand for an actual or potential social group with its background knowledge and epistemic perspective. As also a single agent necessarily makes her judgment on a similar kind of basis, we can speak of her making the judgment on the basis of being, and acting as, the group member, of either an actual or a potential social group. In this sense all knowledge claims can be said to be social. There are epistemically better and worse perspectives (viz. groups g* with differing background knowledge and assumptions etc.). I will assume that the best perspective, as far as we presently know, the perspective defined by the method of science (see e.g. my own account of it in Tuomela, 1985). This perspective is an idealized and normative one strictly applicable only to fully rational inquirers, but approximately also typical real-life scientists can satisfy the canons of the method of science to an appropriate degree. In the case of epistemic inconsistencies and other new perspectives g* will develop and supersede old ones and this may lead to the replacement of a knowledge content p (say a theory) by a better theory p’, and the new epistemic perspective may

also be epistemologically better in that it involves better cognitive and material resources for justification and perhaps also better criteria of justification. Think of the development of the scientific world view out of a magical or religious world view in this context. The present idea is that the ultimate contingent criterion for truths about the world in general is observation, and, indeed, empirical can also be an important criterion for choosing between different epistemic perspectives. Trivially, an epistemic perspective that allows for theories and hypotheses about the world that are not responsive to empirical testing is obviously worse than a perspective that requires appropriate responsiveness to testing.²

The present, somewhat relativistic epistemology, is not relativistic all the way down, so to speak. Even if on the *cognitive* and *"personal"* level there may and need be not an end to the sequence of same-order or higher-order perspectives used to evaluate knowledge claims, on the functional level of behavior and need and goal satisfaction relativism loses its grip. To make a programmatic claim, humans are by and large able, partly on a cognitive level (on the basis of innate abilities to think and reason epistemically) and partly subpersonally, to cope with reality, with the way the world is, and survive; their basic needs thus get satisfied in part due to the fact that they have knowledge about the world (cf. the discussion of nonconceptual "picturing" in Tuomela, 1985, Chapters 5 and 9).

While I will to some extent discuss the nature and function of knowledge in general below, one of my more specific concerns will be to give an account of group beliefs and knowledge in the sense that the group members *as a group* believe or know something.³ A central case here is *normatively binding* group belief and knowledge. In this normative case the group is "instrumentally", but not necessarily morally, obligated to reason and act on the truth of the content of the belief in question, and it also at least to some extent – viz. at least in the case of its "operative" members for believing and knowing – fulfills the obligation. I will accordingly assume minimally that a group cannot know unless at least some of its members know the item in question. The general ground for this assumption is that group properties *supervene* on their members' relevant properties (see Tuomela,

1995, Chapter 6, for a discussion). A group *g*'s normatively binding belief concerning a topic, *P* (= {*p*; *¬p*), will accordingly depend on its members' beliefs, indeed "we-mode" beliefs which are at least "acceptance" beliefs (that *p* or that *¬p*) and on their relevant "interconnections" concerning *P*. What we-mode acceptance belief here amounts to will be clarified below. Here it suffices to say that it centrally involves the idea of functioning fully as a group member (see Tuomela, 2002b, 2003, for my latest analyses of the we-mode). Thus, when *g* believes that *p*, the members of *g*, collectively considered, will be assumed to believe (accept) that *p* when functioning as group members. Their private beliefs related to *P* (here covering *p* and *¬p*) can be different from those they adopt as members of *g*.⁴

There are two kinds of beliefs that groups qua (metaphorical) believers can have: (1) group beliefs (viz. beliefs attributed to a group) concerning the external world (e.g. grass is green) and more generally facts that are not at least entirely artificial and thus depend at least partly "upon the way the external world is"; (2) group beliefs and we-mode beliefs about facts which are social and artificial in the sense that they are performatively created and collectively accepted. In the present kind of beliefs it is entirely up to the group members to decide about their truth or, rather, correctness. I will call group beliefs of kind (1) *natural*. As to (2), I will concentrate on its central subclass formed by *constitutive institutional beliefs* (e.g. that squirrel pelt is money, to use my standard example). I will understand institutionality in a broad sense of normative "groupness" and "we-modeness" and typically concentrate on normatively binding group beliefs, where the normativity is based primarily on the fact that there are *operative members* for the group who have been authorized to make normatively binding decisions and agreements and/or to accept views for the group. The set of operative members may in the extreme case consist of all group members, in which case there need not be prior authorization. I will also comment on non-normative beliefs that groups qua believers can have. Furthermore, we can speak of group beliefs even in a weaker sense in which the group qua a group does not believe but in which sense there are shared "we-

beliefs" that, say, *p* in the group held by group members, who still have not collectively committed themselves to *p*.

The following factors should be noted when discussing the justification of normatively group-binding group beliefs. First, authorization is a central element in the case of the operative members' beliefs, and their functioning qua group members is a second central element. Secondly, the beliefs are acceptances rather than (or over and above being) experiential beliefs (cf. note 3). Thirdly, that a group member's belief is in the we-mode entails that the member in question is "we-committed" in a we-mode sense (viz. committed as a group member) to the content of the belief. We say that a person is we-committed (either in the I-mode or in the we-mode) to a content *p* if and only if he is committed to *p* and believes that the others are similarly committed to *p* and that this is mutually believed in the group. The members who are we-committed in the we-mode are also committed to one another to hold the belief. We-mode beliefs about a topic *P* will have to accord with the "ethos" (viz. the *constitutive* or at least *basic* goals, values, standards, and norms) of the group and are in this sense *for* the group, viz. for the use and benefit of the group. In the epistemic case it is of course the epistemic part of the group's ethos (viz. its epistemic values, standards, and norms) that matters.

Notice that group members' private (or "I-mode") beliefs and their justification is completely separate matter, and that question will not be discussed in the present paper.

In accordance with the above discussion, I will in this paper in particular defend the following theses on group knowledge:

(T1) (a) A group's knowing that *p* qua a group entails that the group must accept (or at least have accepted) that *p* as true or correctly assertable and that the group is justified in accepting that *p*.⁵ Group acceptance entails that the group is committed to *p*, but not necessarily in a non-instrumental) normative sense. (*group level*)

(b) There is a special social justificatory dimension in that at least the operative group members in the we-mode case (a), involving group-binding collective commitment, must

share a justifying *joint* reason for (their knowledge content that) *p*. (*jointness level*)

(c) An individual group member's knowledge that *p* involves the justificatory aspect that she ought to be able to reason and act in accordance with the fact that *p* has been justifiably accepted by the group. (*individual level*)

(T2) In the case of constitutive institutional knowledge the criteria of justification are completely social (viz. based on collective or joint acceptance), whereas in the case of natural knowledge non-social elements of justification are central.

(T3) Justification is in general relative to the group in question, viz. to the (minimally high) epistemic standards it incorporates. (This applies both to the attributee, *g*, and the attributor, *g**.)

(T4) Epistemic practices (gathering of knowledge, acceptance of something as the group's view, relevant inferences and action on its basis, and the justification of acceptances) in a group are institutional, because they are governed by its ethos, thus by its normative epistemic standards. Thus in fact all knowledge (as a product of such epistemic practices) has a special institutional status (cf. (T2)).

My main concern below will be a group's knowing as a group that something is thus and so. There are weaker cases of group knowledge and I will make some comments concerning them, too. In those weaker cases we can speak of there being knowledge in the group that thus and so and take this to involve that some epistemic group standards still will be used to evaluate that knowledge (cf. (T3)).

As to (T4), I will not properly argue for it in this paper. Let me just say briefly what I mean by the institutional status of epistemic practices and their products (knowledge claims). First, the we-mode acceptance by a group of *p* as true in a justified way must be required. This makes *p* group knowledge in a strong sense involving that the group members are to regard *p* as being something for the group use. E.g. the knowledge that squirrel pelt is money has that kind of status due to group acceptance of squirrel pelt as

money. Basically, squirrel pelt is money if and only if it is accepted as money in the group and for the group (cf. Tuomela, 2002, Chapters 5-6). The same goes for stereotypes like "star constellation at one's birth determines one's fate" (= p). We may think that in some group this latter piece of "knowledge" p is accepted as true or correctly assertable in and for the group and is thus "perspectivally" true. Thus p can be said to have a special, institutional status in the group: that p is the case is not just a private belief or piece of knowledge of group members but something that has obtained the status of we-mode group knowledge, and that status depends on group acceptance and the ensuing practices. (See Kusch, 2002, for a recent "communitarian" account of knowledge that resembles my account but makes knowledge even more social than mine does.)

II. Knowledge and Joint Reasons

Suppose the group has as its task or problem to determine whether the ship far out on the sea is a schooner. While the group members' initial views may differ, group discussion may lead to an acceptable group view of the matter. Sometimes the group members' pieces of knowledge complement each other's views. For example, one member may know what kind of stern a schooner has, while another one knows how many masts it must have. Group discussion (argumentation, persuasion, and whatever is involved) may lead not only to an acceptable group view (and thus putting together separate pieces of information) but also to shared reasons for the view. Whatever the method – be it majority voting or selected representatives' reasoned proposal – initially used for arriving at a group view collective acceptance of the reason as the group's reason must ultimately be required. If and when putative group knowledge has been arrived at, involving relevant social agreement (consensus) between the participants (cf. the classification of kinds of group knowledge in Section V), we may ask under what conditions there really is group knowledge.

The members may all have private reasons for their knowledge claims, but there might still not be a factual *joint* reason for the *acceptance* and *truth*

of p (note that a reason for the acceptance of p would in general be a good reason for the truth of p without perhaps guaranteeing it). In the case of natural knowledge a non-social justifying *group reason* (or, here equivalently, *joint reason*) arguably is needed, although not on merely on conceptual ground somehow pertaining to the concept of group knowledge. Rather, when a group knows as a group – and the members thus are collectively committed to the content of the knowledge and to each other relative to it – a joint reason is needed on functional grounds for the following more detailed reasons. Knowledge (justified true belief) is supposed to guide action and, what is central here, to do it better than mere belief and even true belief. Why can this be said? The justification will in general tell why the belief is more than an accidental truth, and in the case of e.g. repeated action and changing circumstances, true belief with justifying reason will fare better than mere true belief. Furthermore, in the group case knowledge based on a shared group reason will functionally fare better than that the justified true beliefs the group members might have that would be based on their individual reasons. What we thus are comparing here from the group's point of view is intentionally acting on (possibly true) belief or even merely individually justified true belief versus acting on group knowledge (viz. on the basis of a good group reason). Clearly, the group can act as a group more successfully and reliably (from an objective point of view) and take more risks (from its internal, "groupjective" point of view) in the latter than in the former case. Thus there will be both more successful acting and acting of another kind when the requirement of justification is satisfied and taken by the group members to be satisfied. Yet another point is that the group can also better argue for, and explain, its view and defend itself in public when it has a good joint reason for it than when it does not. The group members should be able to speak with one voice when arguing as group members for the group's view.

Even with good joint reason and thus justification for the acceptance of p, the group might still collectively be in error concerning p – at least in the case of natural belief. Thus, group discussion and, indeed, any method of justification may fall short of yielding truth in the case of natural belief:

A joint reason in general does not entail truth at least in the case of natural beliefs and it need not even give the kind of justification that factual knowledge requires. Justification is relative to the knowers' background beliefs and the requirement of (T3) that the group members try to secure that they have good evidence is similarly a matter relative to background perspective and beliefs. If, for instance, they are in a place where "façade" schooners are placed in the sea they should make sure, if they knew that they are in such an area, that the ship they seem to be seeing is not a mere façade ship (cf. Rosenberg, 2003, Chapter 4, for a recent discussion of this kind of cases). However, it might be reasonable to require more epistemic group effort in these cases than in the case where normal conditions obtained and were known by the participants to obtain (this is what Rosenberg requires). The group could then be said to know that there is a schooner on the sea if the matter had survived this kind of "reasonable" scrutiny. This solution – involving the defeasibility of knowledge attributions but not yet necessarily relativity to epistemic standards – of course depends on the availability of a non-tautological notion of normal conditions and of knowledge of the absence of normal conditions. This approach may be charged of assuming too much conditionality and of thus making knowing too difficult. Perhaps so, but recall that we are speaking of the philosopher's strong notion of knowledge here.

A weaker approach would tentatively attribute group knowledge to a group when it claims to know and has not obviously acted irrationally in acquiring its "knowledge". If it appears later that the group members had been somehow deluded, the claim about the group's knowledge should be withdrawn because if there was in fact no schooner. But if there was one, a part of their evidence might be allowed to be distorted without a change in the claim that they knew that there was a schooner. As emphasized in Section I all attributions of knowledge are fallible and may later be shown to be based on incorrect or distorted evidence. The present weak approach is almost what my approach amounts to, provided that the required minimal rationality in acquiring knowledge is taken to amount to the use of the scientific method.

In contrast to natural knowledge, the (constitutive) institutional case is different in that in this case the group is "always right", to use a slogan, because the truth of the item *p* of knowledge *and* the justification of the group's acceptance of *p* both are social and necessarily so. More precisely, the group is right in this case if it functions properly both in a factual and a normative sense. Proper functioning here means that there is externally and internally autonomous collective acceptance that *p* and that the collective acceptance is genuine to the extent that the members also act in accordance with it, viz. use squirrel pelt as money, etc.⁶ In the present, institutional case we can speak of performative truth. The conceptually central ground or conceptual model for institutional beliefs is *collective performative speech acts*. Suppose we, the group members, jointly declare and accept that squirrel pelt is to be our money by representing in our actual use that squirrel pelt is money. Then squirrel pelt *is* money in our group, and our group knows it is money and describes it as money. Squirrel pelt has acquired a special institutional status.

In the case of natural belief there is in general mind-to-world direction of fit of satisfaction (cf. Searle, 1983, for the notion). This means in colloquial terms that the mind must be changed to fit the world. In contrast, in the case of constitutive institutional belief (e.g. squirrel pelt is money) the direction of fit is world-to-mind. That is, when viewed as constitutive the belief in question has the world-to-mind direction of fit (in contrast to the case when it is viewed merely as expressing what the world is like according to its subject). Thus, in the constitutive case the world is to be changed and kept changed by the participants so that it fits their mind, but – as the group is here also taken to have *asserted* the content in question – the belief, non-constitutively viewed, also has the mind-to-world direction of fit.

The authorized operative members who have formed the piece of knowledge *actually* have the knowledge (at least at the time of making the decision or agreement in question). The case with non-operative members, in contrast, may be like that of a stranger or an external observer. They may learn about the piece of knowledge e.g. by testimony from someone (or from books) and thus

have the source in question as their justified source of knowledge (see below for more on this). The content in question, say that squirrel pelt is money in the group, is “quasi-objective” or, as we may say, “groupjective” knowledge (cf. Searle, 1995, for a somewhat similar view). For external observers the piece of knowledge that squirrel pelt is money initially has the mind-to-world rather than the world-to-mind direction of fit of satisfaction (cf. above).

As seen, typical cases of group belief formation are based on group “discussion” (communication purporting to find out whether something *p* is true and what the reasons justifying it are if taken to be true). The central thing is that the result of the discussion must be “collectivized” if a group-binding we-mode reason is to be acquired (this basically involves all cases with collective commitment to the content *p*). Thus *p* will have to be jointly accepted (at least by the operative members) and for *p* to be an item of knowledge there must also be a joint reason or a group reason that justifies *p* in the group’s view (recall the discussion in the beginning of this section). Such a joint reason need not be occurrent in the members’ minds but may be only dispositionally had. Furthermore, the members need not accept (or be disposed to accept) the reason under the same description, so to speak. They may thus accept a reason, *r*, in a *de re* rather than *de dicto* sense and be free to describe the reason in their own personal ways.⁷

To consider a weaker case, suppose that the Finns believe that eating rye bread is good for one’s health (*p*), we are dealing with a collective belief or piece of knowledge that does not concern the group as a group but merely expresses knowledge existing *in* a group. The Finns (or most of them) believe that *p* and mutually believe that they so believe. However, suppose next that the Finns collectively commit themselves to content *p* as their shared belief content. They are then personally committed to it and believe that others are similarly committed (and perhaps that they also believe that this is mutually believed). When the collective belief is thus accompanied by collective commitment we arrive at group-binding group belief, which still need not involve a general obligation to stick to the belief (viz. content). There are also other cases of group-

binding beliefs falling between normatively binding group beliefs and aggregative cases (see Section V and cf. also Tuomela, 2003). All the group-binding cases (viz. cases involving at least “instrumental” collective commitment to the content of knowledge and to the other members concerning this content) must on functional grounds involve a joint reason, in a sense to be explicated below.

Collective commitment in the cases enabling group action must be in the we-mode and this involves that the group member’s reason for committing themselves is that the group is committed or that the group thereby will be committed. I wish to emphasize, though, that the collective commitment to content *p* is commitment due the participants’ joint intention (or a joint attitude with the world-to-mind direction of fit of satisfaction), and it is hence intention-relative and non-normative as such (unless proper normativity is imposed on it). Note that there can be group action based on individual reasons only, but then the commitment is not proper collective commitment involving the idea of “necessarily, one for all and all for one” that I have elucidated in terms of the “Collectivity condition” for group properties. A group’s knowing as a group requires collective commitment of the group members to the content *p* and in general also to the group reason serving to justify *p*. (Recall the arguments concerning group action, its explanation, and the group’s speaking with one voice.)

As to the group reason (or joint reason), in weakest cases of collective knowledge by joint reason a shared “we-reason” (one in the I-mode or in the we-mode) is meant below. Thus, in these cases it is the content of a shared we-belief or we-knowledge concerning the fact that functions as a reason. (Roughly, a person has a we-belief that *p* if and only if he believes that *p* and believes that the others in the group also believe that *p* and that this is mutual belief in the group.) The content of the joint reason can in some cases be a collectively accepted combination of the members’ personal reasons. For shared we-belief to yield group-binding group knowledge we must be dealing with shared *we-mode* we-belief, which entails that the participants are collectively committed to the content of the piece of knowledge for a group reason as discussed

above. In contrast, I-mode group knowledge may just amount to shared but collectively non-binding we-belief for which the members have their own personal reasons that need not be shared. The initial example of the Finns' we-belief above (without the assumption of collective commitment) is a case of I-mode group belief.

When a group knows as a group, an individual member, who does not yet have the knowledge in question, can "pick it up" at least when it is public knowledge in the group (a collective good in the sense of non-excludability and indivisibility). If the individual believes that it is knowledge in the group that p , then, being committed to what the group knows, he will take himself to know that p , although his believed knowledge and understanding of p may be so shallow as not to allow him to appropriately use it as a premise in his inferences and as a ground for his action. (When the belief here is based on hearing or reading it amounts to knowledge by testimony.) Accordingly, a group member can be assumed to believe with good reason that p , for this is what the belief that he knows that p amounts to.

It can be suggested that in the weakest cases a state or fact-like entity Z (be it a non-social external state or a socially created one) is a justifying *joint reason* for believing that p for the operative members A_1, Y, A_m in g if and only if (i) Z obtains and (ii) each A_i accepts Z as a justifying (viz. epistemically good) reason for believing that p in group g and (iii) believes that all (operative) group members similarly accept Z as a justifying reason for p and also (iv) believes that (i) – (iii) are mutually believed in g or at least among its operative members (see Tuomela, 2002, for discussion). An epistemically justifying joint reason (or "we-reason") gives the social aspect of justification for the collective knowledge that p (for the "collective knowing" aspect rather than for the ground of the truth aspect of justification). We need "acceptance beliefs" in the case of full group beliefs, for here the group members must form a justified view (judgment) from the group's perspective and not only from their own personal perspective. Thus e.g. "experiential", nonintentionally acquired beliefs do not qualify here. Furthermore, to have a case of the group knowing as a group it must be committed to the reason Z , and thus the group members must be

collectively committed to Z , in which case we have we-mode knowledge. It cannot then be a mere accident that the agents share the we-belief that they all know that p . (To be sure, there can be an I-mode case of group belief if above each member, so to speak, just operates on the basis of her own reasons, but the result will not be group-binding group belief.)⁸

I wish to emphasize that the joint reason can be a compound reason. This will be needed in the cases of division of labor. The agents here might be researchers in a project aiming to find out whether p or $\neg p$. The hypothesis that p requires a complicated collaborative research. As a result each participant A_i comes up with a partial reason Z_i such that $Z = Z_1 \& \dots \& Z_m$. Thus Z is a conjunctive combination of each of the partial reasons, but each participant is assumed to accept Z as a justifying reason for believing that p or at least that the operative members reasons amount to such a justifying reason (although they might not know what they are). In the we-mode case the participants are indeed assumed to be collectively committed to taking Z as a justifying epistemic reason for p . They need not be required to be able to describe each Z_i in the "right" way. It suffices that they trust that each A_i has done an acceptable job and may, for instance, just take Z_i to be the part reason provided by A_i . In cases where the participants have not even been named a more general account will have to be given, but I will not here discuss such extensions.

There might be the stronger kind of social justification involved that the participants even take the fact that the others take Z as a good reason for believing that p and that this is mutually believed in the group as a partial reason for their taking Z as their own reason as well. This is particularly relevant and important in the case of institutional social beliefs in order to get the group to conform to the use squirrel pelt as money, and so on for other institutional cases.

I assume here, however, that in the institutional case the shared we-acceptance is rational and "performative enough" to guarantee constitutive institutional knowledge. The analysis here is a *de re* formulation concerning the belief that Z is the case (entailed by Z being a reason for a participant x 's belief that p). In this case the members can use their own descriptions of Z .

My next point concerning the analysis is that in the third main conjunct (iii) above A_i 's belief that p has as its reason that in his view the others believe that p for the reason that Z (and this is mutually believed). This is A_i 's social reason for believing that p . As the present analysis holds for every member A_i , it follows that everyone in the group has as his partial reason for his belief that p that Z is the case and the others are doxastically involved as just said in the previous sentence. One might still complicate the situation and require that A_i 's reason be not only what was just said but also that the others have the mentioned kind of social reason for their belief that p (viz. A_i 's partial reason for his belief that p would be not only that Z is the case and that the others take Z to be their reason but that the others also have as their partial reason not only Z but also the social reason that all the others take Z as their reason and take this to be mutually believed in the group). In principle, these reason loops can be iterated.

As seen, joint reasons are needed when a group functions (e.g. acts and justifies its views) as a unit and the group members accordingly act as group members, and it cannot function as a unit without collective commitment to the content in question. Let us consider the I-mode example of Finns believing that eating rye bread is wholesome and assume that in this case there is no collective commitment to the content. Thus, there can be justified shared we-belief in this weak case even if there is no joint reason in the sense of collectively accepted reason (in the above we-attitude sense of collective or widely joint acceptance). The individuals may have their own different reasons for their belief, and their reasons may even be good enough to yield individual knowledge. If that were the case, the group would not know as a group, although in a sense we could say that there is the knowledge *in* the group that rye bread is wholesome. Technically, we could here define Z as a disjunction $Z_1 \vee Z_2 \dots \vee Z_m$, concerned with the m participants' possibly different reasons and require that the group members indeed use the disjunction rather than their original individual reasons for believing that p .

A central element in an individual's or group's having knowledge, knowing something, is that it

must have relevant successful (viz. successful, *ceteris paribus*) abilities. The ability aspect of having knowledge (viz. knowing) is an "output" aspect of the internal mental state of knowing (typically: believing that one knows). The "input" aspect, viz. the antecedents of knowledge or the external content aspect of knowledge, is something not strictly determined by the ability or output aspect and, accordingly, is to be found out a posteriori, by scientific means. (At best some highly general features of the external aspect are entailed by knowing as ability; among such aspects reliability of the knowledge-generating process perhaps is such a feature, but I am doubtful even concerning that.)

My present "output" or "ability" account of knowledge (knowing) presupposes that the agents have justifying reasons for their acceptance of p as true, but the theory does not analyze what those reasons are or must be. Suppose the scientific community knows as a group that $E=mc^2$. This requires its acceptance of that general proposition, and thus at least the operative members must accept this proposition with a joint reason (a shared we-belief), upon group discussion. Thus for $E=mc^2$ to be collective knowledge, there must be a shared we-belief that this content is true, but the justification of the truth of this content basically is not social (or at least not merely social).

In the above account there clearly is room for degrees of justification. There are thus degrees of goodness in relation to a) the grounds for the truth of p , b) the knower's relevant reasoning and acting abilities and thus understanding concerning p , and c) the social bond between the group members. So one can have knowledge (or know) that p in stronger and weaker senses. Thus, a person may know that $E=mc^2$ but he may not have deep knowledge about it even if he has taken physics 101. At least Einstein knew the content much better, viz. in a richer way.

III. Analyses of Basic Epistemic Notions

I will next present some more detailed analyses of epistemic concepts mainly for the social case.⁹ The basic problem that I will try to deal with is what group knowledge (in a sense entailing justified true group belief) amounts to.

Accordingly, it is important to give an account of justification, and this account will be a social account claiming that justification is dependent on a group's epistemic standards. Generally speaking, my account of justification assumes, compatible with my paradigm case of the method of science, that justification should be conducive to truth (although more must be required, cf. thesis (T1)). Thus one central distinction between justified and unjustified belief is that the former – under the present “veritistic” idea – would be more likely to be true (or correctly assertable) than the latter. Belief is often said to “aim at truth” – to believe something *p* is to believe it to be *true* (or, correctly assertable, to cover moral beliefs and the like). I will below accept this idea or at least that truth norms are central in the case of belief. (However, children can be taken to believe even when they have not acquired the concept of truth.)

My view is that the scientific method in general is the best method of justifying *natural* beliefs. It is conducive to truth, viz. *informative* truth, as tautologies are of no interest to us in this context. I will below (in (E)) refer to laws and principles acquired by, and/or belonging to, the scientific method. A central feature of the scientific method is requirement of testability concerning the hypotheses and theories of science. Testability is accompanied by a self-correction procedure: if testing a natural-factual claim shows it to be false it is to be rejected or modified. What the epistemology of the scientific method – here taken as a normative doctrine deriving its instrumental norms from the epistemic values of information and truth – precisely taken is, can be discussed only briefly in this context. (For my own, Sellars-flavored account, see Tuomela, 1985, esp. Chapter 9.)

Here is my general, schematic analysis of epistemic justification:

(E) A proposition *p* is (rationally) *epistemically justified* for group *g* (in a situation *C*) if and only if (in *C*) *g* accepts *p* in virtue of *p* fitting and being supported by (a) the relevant data available to the members of *g* and (b) the relevant laws and general principles accepted by *g* that pertain to data of these kinds.

For an egalitarian group *g*, it holds that *g* accepts *p* in situation *C* if and only if in *C*, the members of *g*, when functioning as group members respecting the ethos of *g*, rationally – respecting (a) and (b) – collectively accept *p* as true or correctly assertable in *C* and thus acquire the shared we-belief (viz. we-acceptance) that *p*. Collective acceptance thus requires obedience to the objective *truth-conducive* factors (a) and (b) (although the required minimal strength of conduciveness may be debated about). *C* can be taken to consist of the right normative and social circumstances, as analyzed in Tuomela, 1995, Chapter 5. The nature of *p* and the context of its collective acceptance will determine the direction of fit of its satisfaction conditions (recall the classification of beliefs in Section I).

The analysis (E) can be rendered in the form of an epistemic judgment made by an informed third party, e.g. the community of (ideal) social scientists (recall Section I). In other words, we have the judgment or acceptance statement $A(g^*(E)(g,p))$, where *E* means “epistemically justified”. This statement indicates that justification is dependent on both group *g*'s and the external party *g**'s epistemic standards. Group *g* here regards *p* as epistemically justified, when (but not only when) it has reflected on the matter, and *g** adds its own judgment of the truth of the resulting statement $E(g,p)$. As the formulation of the account (E) without mention of *g** suggests, epistemic acceptability is here regarded as an objectively (viz. not group-dependently) true matter. This, however, is an idealization and requires that *g**, roughly speaking, consists of the community of all rational agents judging the matter in the “ideally right way” based on, say the best scientific standards optimally applied to the present case. (This is vaguely put, but conveys the general idea.) My account (E) then is seen to be implicitly doubly dependent on group standards, viz. on those of both *g* (explicit although underlying dependence) and *g** (implicit dependence). In the case of non-reflective groups or cases where the group has not reflected on the epistemic status on the propositions its members have collectively or separately accepted, the statement $E(g,p)$ is due to the activity of *g**. My somewhat cumbersome formulations in terms of the acceptance statements by *g** will not be

explicitly used in the rest of the paper, but the reader should remember that the full formulation requires them and perhaps even higher order group judgments, although I have here assumed that they will not ultimately be needed when dealing with the community of all rational epistemic agents. Recall Section I for my view of the underlying evolutionary or quasi-evolutionary objective ground speaking against the further iteration of epistemic perspectives and strong relativism.

What do (a) and (b) involve in more detail? Briefly, a) may involve observational data obtained by means of rational methods of observation – such as scientific field observation or experimentation. Note that in the case of constitutive institutional group beliefs (e.g. when p = squirrel pelt is money), as contrasted with natural beliefs, the data part (a) drops out or at least does not contain observational evidence in the same sense as in the case of natural beliefs. As to (b), it may be proposed that the Sellarsian (1968) conception of the scientific method be used here. Thus we would include in the laws and general principles the so-called “semantical rules” (to use Sellars’ somewhat misleading terminology) of group g . Such semantical rules would fill part of the bill and particular scientific theories (also inference rules, for Sellars) the rest. These rules are world-language, language-language, or language-world rules (laws). Of course, the members of g need not have heard of Sellarsian semantical rules, nor need they. The point here is to present a theoretical account for what should ideally be the case. I do not mean to say either that Sellars has invented the actual rules used in all groups; rather I am saying that his conceptual tools can be applied here.

In Sellars’ system there are ought-to-be rules and ought-to-do rules in the case of all the three kinds of rules. The rules respectively say what a rationally functioning group ought to be like functionally and what its members ought to do (in terms of their inferences and overt actions) for the satisfaction of the ought-to-be rule in question. Clauses (a) and (b) are here assumed to incorporate the central elements of the scientific method (concerning acceptable problems and knowledge claim formation as well as testing and evaluating those claims) and thus to be conducive

to truth (which is going to be viewpoint-dependent or “perspectival” truth, cf. Section I and Tuomela, 1985, Chapter 6). While there will be a common framework of semantical rules for all groups expressing what is to be demanded of rational agents, there will be underdetermination of epistemic justification relative to a) and b) as long as particular features of the group – background views such as expressed by the ethos of the group in question – are *not* taken into account.

The overall account of justification in Sellars is an interesting combination of both foundationalist and coherentist ideas. The account of the structure of knowledge we get in broad outline is this: Given our ordinary framework, there are basic beliefs both of a perceptual and of an introspective kind that are noninferential and that are justified in specific concrete circumstances. Although noninferential, they are not self-justifying, because their justification is approximately a matter of their being licensed by certain constitutive principles of our conceptual framework, including domain-specific theories, and ultimately a matter of the acceptability of the framework as a whole. Let me emphasize that the acceptance of a conceptual framework is a *social* matter, it is the members of a community who accept and use it. Thus Sellars’ theory of epistemology clearly is social. However, as my present account does not really depend on Sellarsian views I will not here go into more detail.¹⁰ Nor will I discuss the problem of the right mix between coherentism and foundationalism.

The notion of epistemic justification defined above is only a social but even an *institutionalized* notion in a broad sense. This is because it deals with the group members acting in their various positions as member of g , which requires that they obey the ethos of g or at least do not intentionally violate it. Thus all epistemic notions which involve the present notion of epistemic justification are institutionalized in the mentioned wide sense (cf. below). This holds both for natural and institutional beliefs in our earlier sense dealing with the content rather than the source of beliefs.

Basically the requirement of truth applies to the case of factual truth (thus to statements describing the world) while correct assertability is needed for

the other cases (e.g. moral statements – there are no moral “truths” in the sense meant here).

Consider a content (or claim) p which is collectively or individually accepted by the members of a group g . Then:

(K) p is *knowledge* in g in a situation C if and only if in C , (a) p is true (or correctly assertable, to cover e.g. moral claims) and (b) epistemically justified in g .

This is compatible with regarding the notion of knowledge as primitive, as I do not claim that justification can be analyzed without reference to knowledge of some kind. Thus the if-part requires for its truth that the notion of knowledge is employed when spelling out clause (b). I also claim in accordance with this that justification comes in degrees and that the attribution of knowledge accordingly also depends on cultural and other factors. Gettier-type paradoxes are relevant in the sense that they seem to show that there in those paradoxical cases is no knowledge (sufficient justification) while the knower itself believes that it knows. In my previous symbolism, we have a case with $A(g, E(g,p))$ & $A(g^*, -E(g,p))$. That is, the justification claim $E(g,p)$ is acceptable to g , while it is not acceptable to the “epistemically wiser” perspective manifested by group g^* . A rational group g should in this case, with $A(g^*, -E(g,p))$ being true and this information being available to g , retract the original justification claim and arrive at $\neg A(g, E(g,p))$ and, upon rational reflection, also to the stronger judgment $A(g, \neg E(g,p))$.

Next follows my analysis of knowing for a single person S functioning as a group member:

(SK) S knows that p qua a member of g (viz. relative to the – mainly ethos-generated – epistemic standards of g) in a situation C if and only if in C

- (i) p is knowledge in g (but g need not necessarily know p as a group);
- (ii) S accepts that p (or acceptance believes that p) with good “groupjective” (viz. “group-subjective”) reason (which is describable by saying that S believes that he knows that p);

Is all knowledge group-dependent in one of the above senses? My quick answer to this tough question is that all concept-involving knowing depends on social groups as the concept of knowledge and the criteria of justification are social constructs. We can, however, try to deal with non-social knowledge by means of universal quantification over groups:

(*) S knows that p if and only if for all humanly possible, “knowledgeable” groups g to which S belongs or might belong, S knows that p relative to the epistemic standards of g .

Criterion (*) is a way of making the believed good reasons that S has (cf. clause i)) objectively good reasons, and it also makes the group’s good reasons (clause iv)) objectively good. (In this case the introduction of the evaluator group g^* cannot add anything, because its resources have already been exhausted by (*).) The non-relativization operation of quantifying over all epistemic standards (groups) makes the resulting knowledge claim objectively true, as said, but of course (*) does not guarantee that there is such group-independent knowledge. Even when there were such knowledge, (*) would seem not to get rid of conceptual frameworks altogether. I cannot strictly prove this matter, but my hunch is that only the quasi-evolutionary ideas presented in Section I would seem capable of creating an objective notion of knowledge, which however, seems to be a subpersonal one. Thus, in this subpersonal sense your body may be said to know something. For instance, your hand “knows” when that it feels something hot or your stomach “knows” when it gets food. (On the other hand, e.g. a cat can know that there is a mouse in the room only in a sense resembling and derivative of the present social kind of knowledge.)

IV. Normatively Group-Binding Group Knowledge

What can we now say of group-binding knowledge? A central notion here is *normatively* group-binding knowledge and belief. Let me explain the idea by discussing my earlier “positional” account of group beliefs (and other group attitudes). The positional account (developed

primarily in Tuomela, 1992, 1995) is concerned with normatively group-binding group beliefs and concentrates on normatively structured groups with positions (defined by "task-right systems" in the sense of Tuomela, 1995, Chapter 1) and a distinction between operative members (e.g. a governing board in a corporation) and non-operative members, the operatives being suitably authorized for decision making and/or acting for the group. Structure requires the mentioned kind of authority system and possibly normatively specified positions or roles in addition. The task of the (internally or externally) authorized operative members is to create group-binding, indeed normatively and objectively (indeed, publicly) binding decisions (intentions, plans, etc) for the group by means of their collective acceptance. Furthermore, the operative members are assumed to act correctly as members of the group and for the group, being normatively collectively committed to what they accept for the group. Thus, what they do is in the we-mode.

The operative members' collective acceptance in this account is "thick", group-obligation-involving collective acceptance of a view for the group that can be expressed by "We, the operative members of g , collectively accept p for g ". This is basically because the operative members have been authorized to collectively accept – typically by making agreements – normatively binding views and goals for the group. This collective acceptance may take into account division of labor, and as a consequence a single position holder may in some cases be the sole acceptor. In some cases the operative members can be replaced by a collectively accepted codified device, such as a voting mechanism.

Accordingly, a group is taken to believe ("acceptance believe") something p if it accepts p as its view, and this is based on the operative members' mentioned kind of collective acceptance (in terms of agreement making or other obligating acceptance) of p for the group. The non-operative members of the group ought to accept (explicitly or tacitly), or at least put up with, what the operative members accept as the group's views. They need not even have detailed knowledge about what is so being accepted. But they are still collectively committed to the

accepted items in cases where they have authorized the operative members to form views for the group, or at least they ought to be so committed.

As to group knowledge, in accordance with what has already been said, the basic idea is that a group knows – relative to its own standards – that something p precisely when it believes it with good "groupjective" reason (or, equivalently, believes it knows that p) and the groupjective good reasons are good also from a more rational (and objective) point of view, and p is true or correctly assertable. Notice that my earlier analysis of epistemic justification in g may still not fully transcend g (viz. there may be an "epistemically wiser" group g^* which makes the contrary judgment $\neg A(g^*, E(g,p))$ or the stronger $A(g^*, \neg E(g,p))$). The requirement of rationality may anyhow be taken to make the justification "sufficiently" objective. I must here leave the problem somewhat open and say only that my paradigm is the method of science; and as long as my criterion of epistemic justification is understood along those, truth-conducive lines, it will amount to objective, albeit still group-relative justification.

Spelt out in full, here is my elucidation of epistemically justified normatively group-binding group belief, viz. of the notion of the group's believing that it knows that p whereby the group employs its own epistemic standards of justification (cf. Tuomela, 1992, 1995 for "positional" group belief):

(BG) Group g is *justified in believing* that p in the normative group-binding sense in the social and normative circumstances C if and only if in C there are (authorized) operative members A_1, \dots, A_m of g in respective positions P_1, \dots, P_m such that

(1) the agents A_1, \dots, A_m , when they were performing their social tasks in their positions P_1, \dots, P_m and due to their exercising the relevant authority system ("joint intention formation" system) of g ,

(a) (intentionally) collectively accepted p as true or correctly assertable in g and because of this exercise of the authority system they ought to continue to accept and believe it positionally, thus in the we-mode (being

collectively committed to p , which they have collectively accepted for g); and

(b) p relates appropriately to the realm of concern of the group and is epistemically justified for g in C ;

(2) there is mutual knowledge among the operative members A_1, \dots, A_m to the effect that (1);

(3) because of (1a), the (full-fledged and adequately informed) non-operative members of g tend to tacitly accept – or at least ought to accept – p in the *we-mode*;

(4) there is mutual knowledge in g to the effect that (3).

My present analysis of “positional” group knowledge is compatible with the possibility that the operative group member are justified in the *I-mode* without the group being justified: A joint reason might be missing. For instance, the constitutive goals and standards (etc.) of the group might simply prohibit the kind of *I-mode* or private justification that the operatives have for their belief that p . (Even all group members might be justified without the group rationally having a joint reason—cf. cases requiring compromises.) Conversely, the group might be justified in its acceptance that p even if some members (e.g. non-operative members) are not, and might privately have good reasons against the truth of the content in question, but just go along with what the operative members have accepted.¹¹

Let us recall our previous distinction between natural and institutional belief (and knowledge). Suppose g believes that p in the normative, group-binding sense and p is a true or correctly assertable sentence (or proposition). Then we can speak of the group’s group-binding “quasi-knowledge”, which still may lack justification, and thus may not satisfy (BG). When it is up to the group-external world to determine whether p is true (the case with mind-to-world direction of fit), we are dealing with knowledge in a sense different from the case in which it is up to the group to determine what is correct or true. For instance, if p = Grass is green, we are dealing with the mind-to-world direction of fit type of situation. But if p = Squirrel pelt is money and the group is Finns in the 13th century, we have knowledge, viz. constitutive institutional knowledge,

which is collectively self-made and has the world-to-mind direction fit. In both cases there can be group knowledge, but in the second case the knowledge, being collectively self-created, is tautologically warranted (and self-validating): The justification is fully social (and independent of the way the group-external world is) in the latter but not in the former case. What is also important to notice is that in both cases there is in a sense truth of the matter, for it is an objective fact that grass is green and it is also an objective sociological fact that medieval Finns collectively accepted and used squirrel pelt as money (even if the fact that squirrel fur is money is merely a groupjective institutional fact).

To arrive at an elucidation of group knowledge that p , I propose, in contrast to Longino 2002, that the truth of p (or, more generally, correct assertability) also needs to be required, for the group might be wrong no matter how good reasons it takes itself to have.

(KG) g knows that p in the normative group-binding sense in the social and normative circumstances C if and only if in C (i) g believes that p in the normatively group-binding sense and p is epistemically justified (in g), (ii) p is true or correctly assertable (for g).

The criteria of justification here are those of g , and thus the knowledge dealt with here is group-dependent knowledge – defeatable by the existence of an “epistemically wiser” group g^* for which it holds that $\neg A(g^*, E)(g, p)$.

It follows from (KG) – given the entailed clause (1)(b) of (BG) – that the operative members must know that p and indeed generally mutually *we-know* that p in the *we-mode* (but they need not know it *also* in the *I-mode*). However, the non-operative members might not know that p , despite being obligated to knowing. Mutual or shared *we-knowledge* here amounts to this: the members all know that p and believe that the others know p and also that this is mutual knowledge in g .

I have been assuming above that knowledge can be linguistically formulated in terms of sentences. Or at least I have to assume that knowledge is propositional. But if it is propositional it is in principle linguistically expressible (viz. there is a conceptually possible language expressing it). What about know-how,

viz. skills? Skills involve a propositional knowledge component which fits my analysis, but they also concern action – viz. disposition to action that the skill concerns. That part I do not attempt to analyze here.

V. Weak Group-Binding Group Knowledge

Above I have concentrated largely on positional, viz. normatively group-binding group knowledge and belief. It is worth emphasizing that not all group beliefs are normatively group-binding in the above sense. Let me end by considering briefly weaker kinds of group knowledge that fall into four categories I–IV (cf. Tuomela, 2003.) I will do it concisely in terms of some examples as follows:

- (1) The Catholic Church believes that miracles happen. (Category I: Normatively group-binding, viz. based on group obligation, with supporting I-mode beliefs had by the group members)
- (2) The Communist Party of Ruritania believes that capitalist countries will soon perish, but none of its members really believes so. (Category I: Normatively group-binding but not backed by personal, I-mode beliefs)
- (3) This group believes that Smith is a traitor. (Category II: Weakly normatively group-binding as the leaders have led the others to believe that they ought to treat Smith as a traitor, which resulted in collective commitment)
- (4) The team believes that it will win today's game. (Category III: Non-normative, the case is assumed still to be group-binding, because of based on a joint plan which is personally accepted in a non-normative, thin sense by the participants and which involves collective commitment but no group-obligation)
- (5) Finns believe that sauna originated in Finland. (Category IV: Non-normative and non-binding; this kind of shared we-belief is what Gallup investigations study).

The most typical group beliefs seem to be the normatively group-binding group beliefs in the sense of category I and the non-normative beliefs

in the sense of category III. We have:

(KGG) *g* knows that *p* as a group in *C* if and only if in *C* (a) *g* believes that *p* in one of the senses III ; (b) *p* is epistemically justified (for *g*), and (c) *p* is true or correctly assertable (for *g*).

Here the phrase 'as a group' primarily means the we-mode and thus that the group members are collectively committed to *p* for the group and, as before, the knowledge is based on justification on the basis of the standards of *g*. If the relativization "for *g*" could be omitted we could speak of knowledge in an objective sense. This would amount to making the analyses of (KGG) acceptable to the group *g** consisting of all rational inquirers, resulting in $A[g^*(E)(g,p)$.

VI. Conclusion

The central topic of this paper has been group knowledge. The other big topic dealt with, although only in a rather sketchy way, was the analysis of the central notions of social epistemology.

In the first section I listed the following theses to be investigated and defended in this paper:

(T1) (a) A group's knowing that *p* qua a group entails that the group must have accepted that *p* as true or correctly assertable and that the group is justified in accepting that *p*. (*group level*)

(b) The (operative) group members in case (a) must at least in the strongest case termed "normatively group-binding knowledge" share a we-mode *joint* reason for (their knowledge content that) *p*. (*jointness level*)

(c) An individual group member's knowledge that *p* involves the justificatory aspect that she ought to be able to reason and act in accordance with the fact that *p* has been justifiably accepted by the group. (*individual level*)

(T2) In the case of (constitutive) institutional knowledge the criteria of justification are completely social (viz. based on collective or joint acceptance), whereas in the case of natural knowledge non-social elements of justification are central.

(T3) Justification is in general relative to the group in question, viz. to the (minimally high) epistemic standards it incorporates. (This applies both to the attributee, *g*, and the attributor, *g**.)

(T4) Epistemic practices (gathering of knowledge, acceptance of something as the group's view, relevant inferences and action on its basis, and the justification of acceptances) in a group are institutional, because they are governed by its ethos, thus by its normative epistemic standards. Thus in fact all knowledge (as a product of such epistemic practices) has a special institutional status (cf. (T2)).

As to the defense of (T1), the most central question dealt with in the paper was to analyze

joint reasons and to argue that they are to be required in cases of a group's knowing qua a group, viz. when the analysis of (KGG) in Section V is satisfied. (T2) was discussed in terms of institutional beliefs like "Squirrel pelt is money" which are completely socially created (in contrast with "natural" group beliefs like "Grass is green" or "There are neutrinos"). (T3) was understood in terms of epistemic perspectives that social groups (collectives) employ and have internalized. The general underlying idea here has been to make epistemology "humanly feasible" by doing away with metaphysical notions that are not connectable to social practices. Thesis (T4) was not discussed at depth, but its truth naturally follows from the general social view of epistemology adopted in the paper.*

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Notes

- ¹ One may debate about how to interpret the demand of justification in this kind of approach, but it is at least excluded in this context that the justification (viz. empirical evidence) entails the truth of the theory, because in general scientific theories are not deductively entailed by the empirical evidence (and other grounds) for them. Scientific serendipity – central for genuine innovation and progress in science – involves non-deductive leaps, leaps which violate the idea that the grounds of the truth of the theory establish its truth.
- ² In Tuomela, 1985, Chapter 9, I have provided my own account of the “comparative goodness” of theories, and that account is also applied to the comparison of conceptual frameworks in partial reliance of the notion of degrees of (nonconceptual) “picturing”; these Sellarsian (1968) conceptual frameworks are closely related to the present kind of epistemic perspectives.
- ³ I will require below that the groups under discussion be autonomous both in an external and internal sense. External autonomy means that they (and their members) are not heavily coerced from outside (to the extent they would lose their autonomy as agents) and internal autonomy means that the group members do not strongly coerce each other but make their decisions and undertake their acceptances autonomously.
- ⁴ Both the members’ we-mode beliefs and the group’s beliefs in the present case are “acceptance” beliefs but not necessarily also “experiential” beliefs (see Tuomela, 1992, 2002c, for discussion). Acceptance beliefs are simply what result from accepting the content in question. As acceptance belief is a dispositional state of an agent leading him to reason and act appropriately. In contrast, an experiential belief is a dispositional state which involves also the agent’s mental experiences related to the content’s being real or existent. However, a group cannot strictly speaking have mental experiences (as it has no mind in a literal sense). It can only have acceptance beliefs, to be analyzed in terms of its members’ we-beliefs (we-acceptances), which of course can involve experiential features.
- ⁵ Audi (1998), Chapter 9, discusses “virtual knowledge” that no one actually has but can easily acquire (e.g. from libraries). In the case of group knowledge that was once accepted but has long since been forgotten in some dusty books we have a similar kind of case – allowed by my formulation of past acceptance.
- ⁶ In Tuomela (2002c), Chapter 5, I defend the view that collective acceptance amounts to coming to hold and holding a relevant we-attitude, one either in the intention family or in the belief family. Here coming to hold an attitude will in typical cases be an action. Note that beliefs in the context are “acceptance beliefs”, thus in general acquired by intentional action (cf. Tuomela, 2000).
- ⁷ Schmitt (1994) presents an interesting pioneering account of group knowledge, which I cannot here comment on in detail. Let me here just make a minor critical remark. Schmitt does not require actual joint acceptance but allows that reason only be available to the members. That I find insufficient. The members would not have a psychologically operating joint reason – which is what we need – if it is only to be found in some book, for instance, which is unknown but available to them.
- ⁸ A stronger formulation of joint reason would be the following: Z is a good *socially conditioned joint reason* for the agents A_1, \dots, A_m in g (or, more generally, for the members of the group) if and only if Z exists and each A_i believes (accepts) that p in part because of taking the obtaining of Z to be a justifying reason for believing that p in group g and in part because he believes that all group

members similarly accept Z as a justifying reason for p and that this is mutually believed in g . In this case, for the shared we-belief to yield group-binding group knowledge, the participants must be collectively committed not only to p but to Z as well (at least “under some description” or aspect of Z). This is the central part of what the shared we-knowledge being in the we-mode amounts to here. In precise logical terms the following rephrasing may now be suggested for an “egalitarian” group g consisting of members who are equally involved in (justifiedly) believing that p . The reason state Z – an actual or, in some non-standard cases, non-existing state – is a reason for the agent’s belief (B) that p . The reason relation is denoted by $/_r$. I now propose that the participants’ shared we-belief that they know that p in g amounts to their “groupjectively” justified (viz. good-reason-based) shared we-belief that p in g :

$$\text{JSWB}_g(p) \leftrightarrow (EZ) [(x) (B_x(p) /_r Z \ \& \ B_x(p) /_r B_x((y)B_y(p) /_r Z \ \& \ MB_g((y)B_y(p) /_r Z)))]$$

$\text{JSWB}_g(p)$ entails that the members of g share the we-belief that they know that p .

⁹ My discussion below has benefited from Longino’s (2002) related account, even if my analyses are based on somewhat different ideas. Among other things, she gives a social analysis about epistemic justification. However, space does not permit a proper discussion here.

¹⁰ Let me comment on Sellars’ theory of knowledge in some more detail, as I propose to take it as a background theory for the account of this paper (see Sellars, 1956, 1968, 1975, Delaney, 1977, for exposition and defense of the theory). According to Sellars, all knowledge is more or less heavily laden with background assumptions and knowledge. In particular, as to observational knowledge, there are no self-authenticating, nonverbal episodes, and those reports that do qualify as observation statements derive their epistemic authority from the knowledge of other related facts. In the case of scientific knowledge there will be scientific domain-specific theories which in addition to the mentioned kinds of general semantical rules of language will provide justification.

As to the problem of the structure and justification of knowledge the central debate has been taking place between foundationalists and coherentists. Foundationalists assume that there are basic, justificationaly privileged items of knowledge (e.g. observation statements of certain kinds) and assume that other kinds of knowledge be justified on the basis of them, while coherentists argue holistically and take justification to depend on the whole system of knowledge in principle, without there being privileged items of justified knowledge. One can claim, however, that in running together the notions of inference and presupposition, both the foundationalists and the coherentists link together the notions of *non-inferential* and *self-justifying* knowledge (cf. Delaney, 1977). The foundationalist emphasizes the fact that (i) not all knowledge can be inferential and concludes from this that (ii) there must be some self-justifying instances of knowledge. Sellars accepts (i) but argues does (ii) does not follow from it. In contrast, the coherentists focus on the fact that (1) no knowledge is self-justifying and concludes from this that (2) all knowledge is inferential. Sellars accepts (1) and argues that (2) does not follow from it.

¹¹ Schmitt (1994) makes resembling points in his analysis.

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