Ancient and Modern Ethics Combined[*]

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1 Introduction

One challenge of societies in the 21st century is the conflict of norms between different cultures. In Ancient Greece, too, such conflicts arose, and great thinkers offered great solutions. In this contribution we will argue for the following:

- Ancient ethical theories were not only individual ethical theories but also social ethical theories (2).

- The ancient methods of scientific examinations are useful not only in classical sciences but also in ethics (3).

- Accepting the result of (3) yields highly interesting theoretical results about conflicts of norms between different cultures (4).

2 On Ancient and Modern Ethical Theories

Sometimes the following difference between ancient and modern ethics is stressed: Most of the ancient ethical theories are theories of individual ethics; they are mainly investigations concerning the way to live. Most modern ethical theories are theories of social ethics; they are mainly investigations concerning a person's responsibility for actions with respect to others (cf. Birnbacher 2003, p.3). But this claim is only partly true:

Thesis 1. *It is true, if we talk about the domain of the Hellenistic Greece – third to first century B.C. – considering the ethics of Epicurus and the Stoics. It is false, if we talk about the domain of Classical Greece – fifth to fourth century B.C. – considering the ethics of Socrates, as passed down to Plato and Aristotle.*

Aristotle introduces one of his main ethical works, *The Nicomachean Ethics*, with the phrase "[The knowledge of the good for man] would seem to belong to the most authoritative art and that which is most truly the master art. And politics appears to be of this nature;" (cf. Aristotle 1998, I.2, p.1094a). He concludes this work with a connection to his *Politics*, in which he discusses the relationship between social ethical behaviour and individual ethical behaviour. More precisely, he asks whether a citizen is virtuous if and only if he is a good person. Aristotle claims that an answer to this question depends mainly on the definition of 'citizen' and the social status of the person. He concludes that only citizens, who are leaders of the state are virtuous if and only if they are good (cf. Aristotle 2008, III.4, pp.1276bff). So Aristotle discusses ethics in the context of social ethics, and his discussion in this context is, as Aristotle himself claims, the core of his ethical investigation.

Something close to this holds true also for Plato. In his main work on politics, *The Republic*, he examines the meaning of 'is a good action of someone in the society', and concludes: Someone acts well in a society if and only if he fulfills exactly his duties in his state. As Plato suggests a social structure consisting of three classes, there are mainly three duties: Kings should lead their state, soldiers should protect it, and the craftsmen should produce goods for it. On the basis of this result, Plato examines the meaning of "is a virtuous person" by mapping the three classes to the three virtues of wisdom, courage and consideration. Each one of these virtues has a proper domain in which someone should act according to that virtue; and a person is virtuous if and only if the person has these three virtues and acts exactly within the proper domain of each (cf. Plato 1952, IV.6–13, pp.428ff). So Plato also discusses ethics in the context of social ethics. That the case of Socrates also supports Thesis 1 is evident for a reader of Plato's *The Apology of Socrates*.

One may ask why social ethical theories were so important in classical Greece. Without going too much into detail we can draft the following explanation: If a city is experiencing a tremendous amount of immigration, then social problems arise in that city. If social problems arise in a city and there are thinkers in the city, then theories for handling social problems in that city are developed. Many poleis in the age of Classical Greece were experiencing a tremendous amount of immigration and had great thinkers. Hence, to solve social problems for many of the poleis, social ethical theories were developed in the age of Classical Greece.

As we have argued for, the cradle of social ethics lies in the age of Classical Greece. Some authors think that not only the cradle of social ethics, but also fully matured theories of social ethics can be found in works of this age: "[The] most coherent and ultimately helpful approach to the general question of the good life as lived in community lies, to my mind, in Aristotle." (cf. Young 2005, p.6). We are not going to discuss this view now; rather we will go on to examine a method for discussing problems of social ethics – namely the method of axiomatization.

3   Ethics as Both Science and Practice

Many of Aristotle's claims about ethics we are not going to agree with – especially in the case of ethical methods: for example in *The Nicomachean Ethics* he says that every ethical investigation is rudimentary and not mathematically exact (cf. Aristotle 1998, II.1–3, pp.1103bf). This opinion is not shared by many philosophers, and is especially contested by followers of the tradition of analytical philosophy. In this community it is common sense that ethical theories are understandable, criticizable and useful only if they can be axiomatized or at least can be discussed in an exact manner. To axiomatize a theory is to give a set of logical rules by which one can derive from some sentences, called 'axioms' (which are invariable), every sentence of the theory and only sentences of the theory. In his writings on the philosophy of science, Aristotle himself suggests that an ideal scientific theory is an axiomatized theory (cf. Aristotle 1957, I.2, pp.507f). But ethics, he says in *The Nicomachean Ethics*, is a theory of human actions and there are no strict regularities in human actions (cf. Aristotle 1998, II.1–3, pp.1103bf); since a theory can only be – at least partly – axiomatized if it deals with strict regularities, ethics cannot be axiomatized. Such a view, however, seems to be a bit too pessimistic.

Why is it too pessimistic? Let us answer this via a historical digest: For monadic categorical sentences, which are sentences in a subject-predicate form containing only monadic predicates like 'Every Athenian is a Greek.', Aristotle constructed a type of logic called 'Syllogistics'. Some theories can be axiomatized using syllogistics, but only very simple ones. Aristotle also discussed modal sentences, which are sentences containing a modal verb like 'Necessarily every Athenian is a Greek.'. In the Middle Ages, scholastic philosophers and in the Modern Era, first and foremost Gottfried Wilhelm Leibniz, advanced Aristotle's theory of modal statements. Leibniz noted that there is a close link between the use of modal forms like 'necessarily', 'possibly' and those like 'ought' and 'permitted'. At the beginning of the twentieth century, some logicians tried to develop a formal theory for modal sentences and in the fifties, the Finnish logician Georg Henrik von Wright succeeded in developing the first suitable formal theory for modal sentences. Since this breakthrough, many logicians have been optimistic that formal theories for many modal sentences can be developed that will be useful in metaphysics, epistemology, jurisprudence and ethics.

We can easily see that the development of formal principles for axiomatizing theories has, in fact, advanced. It is an open question whether the most interesting ethical theories can be axiomatized but there seems to be little reason to be too pessimistic. Aristotle showed us the right way of giving solutions to problems in his writings on the philosophy of science, but he was too pessimistic to try to solve problems of ethics with the method he himself suggested – the method of axiomatization. In the next section we will cite and expand a little upon an example for a specific solution to a problem in social ethics.

4 On the Difficulty of Imperfect Community

It was in a colloquium in 1934 at the University of Vienna that Karl Menger, an Austrian mathematician, presented a mathematical theorem intended to be applicable to ethics (cf. Menger 1998, pp.293–296). This theorem and another very interesting theorem are presented within a modern framework in (Siegetsleitner and Leitgeb 2010, pp.211ff). Before we summarize and expand upon these results a little, we will have a look at some of the intuitions behind them.

Many solutions of problems in ethics are as follows: The problem is that there are two, accepted, but conflicting norms – for example one norm forbidding the wearing of headscarfs and one norm permitting the wearing of headscarfs. A solution to such norm conflicts may be the following: Keep ascending in a hierarchy of principles, constantly asking why both norms should be accepted because of these principles, until you arrive at accepted principles within your hierarchy according to which exactly one of the two norms should be accepted. If everything is for the best in this best of all possible worlds, then there is exactly one such ascension for accepted conflicting norms.

A way of ascending from two conflicting norms to their supporting principles, proposed by Immanuel Kant, is the categorical imperative. This method starts from a norm about a single action and ends up in a question about a norm about a very very high number of actions. As an example:

- Initial state: Should I accept 'I am allowed to lie!'?

- Directive:

    - If you can, without contradiction, wish that the original norm, when generalized – that is 'I am' is replaced by 'Everyone is': 'Everyone is allowed to lie!' – becomes a universal law, then the answer is 'Yes!'. Otherwise it is 'No!'.

- Final state: An answer 'Yes!' or 'No!' is given.

One may think – if she is not still ascending – that for the example with the headscarfs, this way is no solution to the problem.

In the spirit of Menger we propose another method: In accepting or denying norms do not care about a very very high number of actions, just care about your attitudes! The question that arises then is not 'Can I really wish that all...' or the like, but 'Is there something that my attitudes have in common with all others' of my group?'. Concerning this question there is a, as Anne Siegetsleitner and Hannes Leitgeb have shown, a rather happy result. The following definitions and theorems are based on elementary set theory.

Given a language of propositional logics L with the connectives $\sim$ and & we define the term 'is a Menger*-model':

Definition 1. *(cf. Siegetsleitner and Leitgeb 2010, p.211)*
$\langle W, N, [] \rangle$ is a Menger*-model of deontic logics of L if and only if

- *W is a nonempty set of formulas of L, and:*

- *N is a mapping from W into $pot(pot(W)) \setminus \varnothing$, and:*

- *[] is a mapping from L into $pot(W)$ which fulfills the following conditions:*

    - *For every propositional sign A of L it holds that: $[\sim A] = W \setminus [A]$, and:*

    - *For every propositional sign A and B of L it holds that: $[A\&B]$ is the intersection of $[A]$ and $[B]$.*

Comment. *W* represents a set of possible worlds (these are, technically speaking, nonempty sets of formulas of *L*); *N* represents the norms and systems of norms regarding a specific situation accepted by a person *w*, whereas norms are sets of possible worlds and systems of norms are sets of norms. [] represents a mapping from formulas into the set of possible worlds in which the formula is true or valid. For example: If *q* represents 'Maria is wearing a head-scarf now.' and *w* represents the actual world (that is the set of all formulas that represents true and valid sentences of the actual world) and if Maria is wearing a headscarf now, then *w* is in $[q]$.

People do accept different systems of norms, but there are some attitudes that seem to be more rational than others. As we will see soon, exactly the rounded attitudes seem to be rational, but first let us define the technical term 'is rounded':

Definition 2. *(cf. Siegetsleitner and Leitgeb 2010, p.213)*
A unary mapping N is fully rounded if and only if for every w it holds that:

- *Principle of Intermediacy. A person accepting two norms also accepts all norms included (between or) by them. Technically: If X and Y are in N(w) and there is a subset Z of Y that is a superset of X, then Z is also in N(w).*

- *Principle of Conjunction. The conjunction of two admitted norms is admitted. Technically: If X and Y are in N(w), then also the intersection of X and Y is also in N(w).*

- *Principle of Disjunction. The disjunction of two admitted norms is admitted. Technically: If X and Y are in N(w), then the union of X and Y is in N(w).*

That every person with rational attitudes should accept exactly these three principles is shown by Menger's theorem called 'Ein Satz über endliche Mengen mit Anwendungen auf die formale Ethik'.

Theorem 1. *(cf. Menger 1998, pp.294f)*
For every w and every Menger*-model with W as its first element and N as its second element, the following holds: N(w) is permitted or forbidden or obligatory or enforceable or (permitted and enforceable) with respect to w if and only if N(w) is fully rounded.
Technical supplement:

- $N(w)$ is permitted with respect to W iff $N(w)$ is identical with $\{X : X$ is a subset of W and w is in $X\}$.

- $N(w)$ is forbidden with respect to W iff there is a Y such that $Y(w)$ is permitted with respect to W and $N(w) = pot(W) \setminus Y(w)$.

- $N(w)$ is obligatory with respect to W iff $N(w) = \{\{w\}\}$.

- $N(w)$ is enforceable with respect to W iff $N(w) = pot(W) \setminus \{\{w\}\}$.

According to Theorem 1 every attitude of a person with respect to systems of norms that is a permitting-, forbidding-, obligating-, enforcing-, or permitting-and-enforcing attitude, is also a fully rounded attitude. Since only permitting-, etc. attitudes are rational, only fully rounded attitudes are rational. And this means that everyone who has rational attitudes also accepts the three principles above.

In a group of people who have different attitudes with respect to systems of norms there may occur the following problem, called the 'difficulty of imperfect community': All members of the group have pairwise at least one system of norms in common (both accept it), but there is no system of norms that is accepted by the whole group. In short: Although bilateral talks succeed, there may be no overall consensus. For example if all members of a group accept in bilateral discussions a common system of norms about wearing headscarfs, there is no guarantee that the whole group will accept a common system of norms about wearing headscarfs.

According to the following theorem the situation is not as bad as it seems to be:

Theorem 2. *For every W' and every Menger*-model with W as its first element and N as its second element the following holds: If W' is a subset of W, for every w in W' it holds that $N(w)$ is fully rounded and for every w of W' and every w' of W' it holds that the intersection of $N(w)$ and $N(w')$ is not empty, then there is a subset X of W such that X is in the intersection of all $N(w)$ for every w in W'.*

According to Theorem 2 the problem above is avoided if the people of the group have rational attitudes. The slogan is: If bilateral talks succeed and all members of the group have rational attitudes, then there will also be an overall consensus. For example, if all members of a group accept in bilateral discussions a common system of norms about wearing headscarfs, and if all these people restrain their emotions and talk together in a rational manner, then there is a system of norms about wearing a headscarf that is acceptable to the whole group.

A small extension of Theorem 2 is the following corollary.

Corollary 1. *For every W' and every Menger*-model with W as its first element and N as its second element, and for every Menger*-model with W as its first element and N' as its second element, the following holds: If W' is a subset of W, for every w in W' it holds that $N(w)$ and $N'(w)$ are fully rounded, and if for every w and w' both of W'*

it holds that the intersection of $N(w)$ and $N(w')$ is not empty and the intersection of $N'(w)$ and $N'(w')$ is not empty and the intersection of $N(w)$ and $N(w')$ is a subset of the intersection of $N'(w)$ and $N'(w')$, then there is a subset X of W such that X is in the intersection of all $N(w)$ for every w in W', and there is a subset Y of W such that Y is in the intersection of all $N'(w)$ for every w in W', and X is a subset of Y.

According to Corollary 1, finding common systems of norms becomes more likely the more tolerant people in the group are (a person w is more tolerant in accepting a system of norms than another person w' if the accepted systems of norms of w' is a subset of the accepted systems of norms of w). The rule of thumb: If you get an optimum for both participants in bilateral discussions within a group, then you get also an optimum for the whole group.

5   Conclusion

In 1934 Menger was one of the first to present a mathematical theorem applicable to ethics. This theorem is about the criteria for rational attitudes of persons. Siegetsleitner and Leitgeb have shown that with these criteria everyone who reaches a consensus in bilateral discussions also reaches a consensus in the long run. We have expanded a little upon this result by giving a hint to the corollary: that two participants of a bilateral discussion reach a better result for the whole group the more tolerant they are.

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