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Equality

Serge-Christophe Kolm

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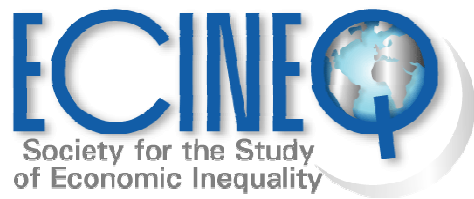
Equality

Serge-Christophe Kolm

1. The problem of equality

1.1 Dual passions

Equality is a mathematical concept that induced the guillotine (notwithstanding liberty and fraternity). This conclusion of the Enlightenment tells the astounding and unnatural duality of the two faces of the coins of this currency. With equality, contrary to Hume's view, a notion from reason sets passions ablaze. For no other issue can a mere structural property stir up so intense emotions. Anger is the common reaction to the irrationalities of arbitrariness and partiality. On the one hand, indeed, throughout human history, in revolutions and wars of independence many people chose to die for equality and no fewer to kill for it. Lack of equality incenses social protests and fuels social movements. It arouses the most burning social sentiments, whether righteous indignation against injustice or pitiful envy and jealousy. Instances are the outrages of subjection, domination, discrimination, exploitation, starvation amid plenty, favouritism and nepotism. On the other hand, however, the analysis of social equality (the discipline of *isology*) also arouses passions of another kind, mathematical, by being one of the most formatized and logic-intensive field of social science. It includes, for instance, the logic of equal treatment and non-sufficient reason (a topic shared with the philosophy of probabilities), the modern developments of Aristotle's "arithmetic or geometric" dichotomy, the parallel roles of equality in the theory of justice and of symmetry in that of physics, and the concept- and theorem-rich formal theories of social justice, fairness, equity (the latin name for equality), equality in liberties and opportunities, reciprocity, envy and its absence, optimum and just distribution and taxation, and the comparison and measure of inequalities.

1.2 Why compare? Evils of equality and of its absence

Is, however, equality the right question? It is comparison. But why compare? Isn't the matter what each person has – in goods, possibilities, welfare, dignity, respect, consideration, etc. –, full stop? Why nosy comparisons with others? Why not mind each person's own business? If this is because this person is envious, jealous or covetous, is this a good reason? Should we give her the other's good to sooth this pain? Or shouldn't we discard, indeed blame and condemn, such ugly and vicious feelings (envy is "the most odious and anti-social of sentiments" John Stuart Mill wrote, "not a passion but a disease" Elster added). If the comparison arouses some painful sentiment of inferiority or judgment as such by others, or more serious shame, or sentiments of superiority, pride and vainglory for the other person, should these feelings be taken into account – at least to what extent – on should they rather be adjusted by education and the progress of morality or psychoanalysis? At any rate, are not comparative sentiments, whether righteous or vicious, the sole responsibility (or accountability) of their holders?

On general grounds, is not the peculiar choice of equality arbitrary, unjustified, irrational? Why "choose equality if there is no reason for inequality", as so many have proposed, since the same logic leads one to choose any inequality as well if there is no reason for anything else? Is "why not?" a serious answer to "why?" Is not valuing equality just the mere aesthetic appreciation of evenness or symmetry – a rather bourgeois or military taste, but what else can be the motive, in art-loving Greece, of Procrustes who equalizes people's height by shortening or extending passers-by to make them equally match the size of his bed in a kind of anticipation of the equalitarian revolutionary guillotine? Is not equality the leveling of ambitions ("he who rises will be brought down" says a popular revolutionary song), the flattening of natural diversity, possibly the erasing of the variety of cultures which constitutes the main value of mankind? Is not famously equality the enemy and destroyer of liberty? Equal incomes jeopardize incentives to earn, savings for growth, support of the arts (and, indeed, equal self-ownership, and equal happiness since people have different capacities to enjoy). Aren't we better protected by hierarchical armies, more efficiently fed by hierarchically organized productive firms? Aren't the masterpieces of civilizations the product of vast labour exploitation often of the most insufferable and odious kind (no Louvre, Versailles or Taj Mahal with equality, no exquisite pieces of literature or subtle philosophy without a leisure class, no Athenian punctiliously egalitarian but time-consuming citizen's democracy without slaves) – as it is unfairly said, the free and equal Swiss produced the coucou-clock.

Hence, are not claims of equality superfluous, obnoxious, unfounded, dangerous, undefined and a priori contradictory?

Well and good. Observe mankind, however, and in it facts that are intrinsically linked to inequality.

Slaveries (still 100.000 *haratins* – literally, "captives" – in a country this author lived in, Mauretania). Racisms (including "ethnic cleansing" by Nazis, in Rwanda or in Bosnia). Apartheids. Sexisms of all kinds and intensities. Cultural dominations and discriminations. The waterfall of disregard, contempt, prohibitions and conditions of caste systems. The order system attacked by a revolution which defined what it violated as liberty, equality and fraternity ("someone who has not lived in the Ancient Regime does not know what the pain of living is" said Talleyrand). Then, from equal rights of property as liberty, the class system with exploitation of man by man in formal freedom, starvation amid plenty and vast inequalities of opportunity. Revolutions against it leading to Nomenklaturas of "more equal than others", the gulag and the rule of force. Dictatorships. Nepotism. Add, whatever their sources, wealth inequalities and average group life expectancies with 50 years differences. The utmost violation of *isegoria*, the Athenian basic democratic equal right to public expression, by our mass-media democracies where only journalists, media owners and politicians speak to the rest of the people. The view of Rousseau (a former servant) that one should be neither so poor as to have to hire oneself nor rich enough to be able to rent someone. "Saved-skin" as the West Indian name for babies born with a clear complexion.

But also, in the then crystallizing caste system, the birth of the antidote, the enlightened emancipating lightening of the Buddha admitting in his *sangha* (community) a *chandala* woman – a bastard of an outcast and a foreigner, the lowest and worst of all – thus inventing the universal equal value of all humans, later transmitted to stoicism and from it to Christianity (Saint Paul's "there is no longer neither slave nor free man, man nor woman, jew nor gentile") and to the modern world. Equal treatment of equals in the relevant characteristics implied by the simple rationality of the possibility of justifying, giving a reason – at least *prima facie*, in the absence of an overpowering reason (e.g. impossibility or the possibility of making everybody better off with inequality). *Faute de mieux*, finally, the

eschatological dream-time equalities of the classless society, the chain of karma lives, and the Christian equalizing positive discrimination of the wealth-related access to paradise.

1.3 Equality as first virtue of society

This basketful of facts, emotions and reasons, from all nooks of mankind in time, place and issue, shows the overwhelming importance of both the question of equality and of its necessary conceptual clarification. It shows that equality may be so bad that only one thing can be worse: its absence. "Inequality is the source of all evil" is Rousseau's (1755) clear-cut conclusion of a nevertheless elaborate investigation. Aristotle and Rawls see justice as actual or ideal equality and find it to be the first virtue of society. Indeed, "Justice is equality, as everybody thinks it is, quite apart from other considerations" is Aristotle's teaching to the king's son in *Nicomachean Ethics*. *Social ethical equality*, our topic here, is almost consubstantial with the concepts of justice in the same field (social justice, distributive justice, compensatory justice, rectification justice, commutative justice, *diorthic* justice, etc.), but we will consider the issues from the equality angle first here.

1.4 Of what?

Of course, equality can a priori be of many things, with often opposite actual consequences. It is commonly thought to mean equality in incomes or goods. It can also be in liberty, however. Historically, in fact, the first and main demand for general equality was equality in rights and notably in basic rights which are essentially liberties ("men are free and equal in rights" is the opening statement of the 1789 Declaration). This freedom from forceful interference can be and has been seen as forbidding income redistribution, thus as meaning equal full self-ownership, and implying a precise opposite of income equality! Equality may be not in goods but in the (psychological) welfare or "happiness" people derive from them thanks to their capacities to enjoy. On the contrary, it can be in the (other) resources given to society, and therefore in the real liberty of using them, thus complementing the formal liberty provided by the basic rights. If these resources are attached to the individuals, as their earning capacities or social conditions are, transfers or specific policies achieve this equalization. This can give various equalities of opportunity. Equality can also be in the variety of social relations, processes, statuses, situations or conditions. Of particular importance is political equality, equality in political power and civic duty, and its manifestation in democracy. Finally, one

kind of equality is particularly fundamental in the ethics of modernity: that of the basic moral worth of humans as such, with the attached respect, consideration, dignity and social and material consequences. Ontological equality refers to our common humanity which should be respected in all its instances (basic moral equality). In Kant's words, all humans are equal in the kingdom of ends, and no one should consider any other as a means only. Equality can also appear in different types of rules that permit to determine individual situations. It is, for instance, an equality of weights in utilitarianism or in the highest social income (highest sums of individuals' utilities or incomes). Equality is also sometimes *rule-equality* (or *functional equality*), that is, the items of individuals are derived from their specific given or chosen characteristics by the same rule or function. As it will shortly be noted, this is the very structure of rationality in the sense of providing a reason, with important consequences.

1.5 Equality and modernity. Formal and real equalities

The equalities considered here are results of choices by society, often by institutions but sometimes by individuals. In almost all societies there are peer groups with some values of equality between their members, and, often, equalities of certain types with larger extensions. However, we are also particularly interested in equality in the ethics of modernity. The logical analysis of equality will apply to all cases. The ethics of modernity is characterized by the acceptance or demand, by large majorities of populations, of certain equalities for large populations, universally for some equalities. These ideal values are, first, moral basic worth, classical basic rights and some sort of democracy. Respect, and basic rights when the distribution of resources is given, are non-rival, and therefore the demands may simply be that each person has them, which implies their equality. In contrast with these consensual values of the ethic of modernity, this ethic is deeply divided with regard to the distribution of goods, the economic values. The polar positions are, on the one hand, a divided family of egalitarians who favour equality in incomes, goods, resources or welfare and, on the other hand, classical liberals who advocate self-ownership – and hence, by the way, equal self-ownership for all. This issue and the resulting structure of the optimum distributions will be analyzed in section 5. Note that since (*prima facie*) equal treatment of equals in the relevant characteristics turns out to be a logically necessary property of a determinate social choice with minimal rationality (section 4), equality appears in two different ways in social choice: as this necessary property of all social ethics which applies to the particular equalizand and scope of

this ethics – it can in particular be an equal freedom, for instance –, and as the particular values of the noted family of distributional "egalitarians".

We will note various possible structural properties of the object of equality. Presently just notice that equality can be between individuals but also between groups or institutions variously defined (with, possibly, the problem of relating the situation of the group to that of its members). These social entities amenable to judgments of justice are the "justiciables". For simplicity in presentation, however, we will use expressions of equality between persons or individuals only.

2. Why equality?

Equality raises two classical questions: "of what?" (including between whom and in what circumstances) and "why?". The operational question is "of what?" However, it seems that it can be answered if and only if we first have the answer to the other, apparently deeper question, "why?" The issue is quite more subtle, however. Consider, for instance, very common expressions such as "all humans should equally have the basic rights", or "at least survival food". The reason is that each should have these rights or food, that is, the "of what". This "of what" constitutes the reason for this equality, it explains it. The answer to "of what" entails the answer to "why". In this case, the mention of equality is in fact redundant. Yet it is often emphasized for reasons shortly noted. In another example, the very commonly given reason "I divide this cake equally because I see no reason to divide it otherwise" has a puzzling logic shortly analyzed (section 4). In other cases, equality and its reason or value are just two different names for the same thing, as with the most important equality as non-domination or non-subjection.

When reasons for equality are considered, the striking fact is that there is not one reason or motive for equality but many of them, of very different and often unrelated kinds. The two most important types of reason for equality are of totally different natures. One is *equality as logic or rationality*. It concerns the reason for "equal treatment of equals", the logic of justification, the property of "permutability" and the meanings of justifying equality by the absence of a sufficient reason for inequality (section 4). The other type is social. It is *equality as non-subjection and non-domination*, a protective or negative relational equality, justified by this type of liberty, and extending to the general properties of relations between

equals (sections 3 and 11). Equality as rationality can apply to all issues – economic, social, political.

Logic, if one dares say, is also a reason for equality which is trivial from its viewpoint, a tautology, and is nevertheless often repeated sometimes with great emphasis and great importance attached to it. This is *equality as generality or universality*, meaning that each member of a given group has or should have some given property of any nature. This is extended into a comparison: each member has, all members have, all members equally have. This property then is general to the members of the group. It is "universal" in this group, but the term "universal" is often reserved for cases in which the group is all mankind. Logically, the mention of equality is redundant. Its presence may have two reasons aiming at reinforcing the claim or value. One is to draw attention on the fact that, in the present or past states, some members only have or had the property. Another may be to appeal to other reasons for equality, namely comparative fairness based on the logical reasons mobilized by the emphasis that the persons in question have the same relevant characteristics.

Comparative equality results from the comparison of persons' endowments of the items relevant in nature and in measure (e.g. the appropriate relative concepts) (section 7). Equality then results from sentiments of relative fairness, and it rules out the various social sentiments that may be aroused by inequality. This fairness, however, is based on the notion that the persons have the same relevant characteristics (no one deserves, needs or is entitled to or accountable for more than the other) and on the logical reasons. The "equity-no-envy" principle (each prefers her own) holds a central place in equality analyses.

Equality, therefore, is essentially a derived value. It derives from direct (end-) values by implications which are varied and opposite in type and direction. In the various cases, it is a condition, a cause or a consequence. It is factually identical with non-domination and hence morally a consequence of it. Directly comparative approval of equality result from some sentiment of propriety perhaps supported by the justification from rationality. However, it is not sure that equality is or can be valued as an end in itself, directly, although it may look like this in some egalitarian judgments that appear as gut feelings or flashes of moral intuition, previous to considered analysis (the opposite of the search for a good reason). This may concern, in particular, the basic worth of humans, relational equality in itself (relation

between equals), comparative fairness, the impossibility of a reason for inequality, and the pure quasi-aesthetic value of balance and symmetry.

When the relevant equality is impossible or costly on other grounds, some reasons for it or judgments favouring it can extend to preferring lower corresponding inequalities. This extends considerably the complexity of the problem and constitutes a vast field of studies (alluded to in section 10). When what is wrong with inequality is that people who have the least have too little, and if another situation can improve their situation sufficiently without diriment costs in the other people's endowments of this item or otherwise, the solution may be to maximize the lowest endowments or "maximin" ("practical justice" for interpersonally comparable ordinal utilities in Kolm (1971), the "difference principle" for an index of "primary goods" in Rawls (1971), or Parfit's (1995) "prioritarianism").

Finally, some equalities induce, entail or require others. This can result from the existence of strictly complementary goods. For instance, enjoying some right or liberty may require some condition or some amount of some good. But the most famous and classical example is Pigou's derivation of equal income from the utilitarian highest sum – hence with equal weights – of identical concave individual utility function. A more elaborate similar property is the basis of the present-day welfarist theory of the measures of inequality.

The essential question of the relations between equality and liberty will be split in two: *equality as liberty*, the historically most important relational equality of non-subjection and non-domination, and *equality of liberty*, including the basic rights and the various cases of equality of freedom of choice and of opportunity.

3. Equality as liberty: the defensive relational equality of non-domination and non-subjection

Equality, nowadays, is commonly considered as opposed to liberty. This usually refers to inequalities in income and wealth resulting from free exchange, and to interferences by public redistributions tending to reduce these inequalities. It sometimes also refers more philosophically to freedom permitting the manifestation of differences in preferences in a diversity seen as an inequality. However, liberty and equality entered – and founded – the modern world not as enemies but as associates, or, rather, as identical situations. Such a

radical change as overthrowing the "feudal" order required the association of these two powerful values. "Men are free and equal in rights" (the 1789 Declaration) transmutes dominated subjects into equal and free citizens.

Non-subjection and non-domination are, indeed, both the most basic equality and the most basic liberty. Relations are more intrinsic to society than comparisons are, and, in a relation, freedom from the other's command and equality are practically synonyms. Domination is a person's power to have another do something, notably by force or threat. By nature, the corresponding subjection is the most vicious of unfreedoms since, in it, a person's will determines another's acts. It is in essence worse than a simple constraint, not only because of the a priori uncertainty, but, much more basically, because it constitutes a kind of amputation of part of the dominated self, and this substitution of wills, this occupation of the other's command center by force (or ruse), is the annihilation of the condition for self-respect and dignity. Domination is usually maintained by force, but it may be worse when the subject endorses the situation in "voluntary serfdom" as Montaigne's friend La Boétie puts it. The situation admits of degrees, however, depending on possibilities and costs of avoiding the domination. Slavery is one extreme, and there are many forms of it. Avoiding subjection is sometimes prevented by a status of lower caste one is born in. Serfdom of diverse types also exists, as do life servants for the same master. Domination sometimes maskerades as free exchange which is fictitious when the alternative is starvation or dire poverty. The wage relationship differs from an exchange of services by its being subjection to the boss's orders within some limits, and the wage earner may have no real alternative or, perhaps, has the only choice to replace one boss by another. This limited possibility to leave the relation has as other effect a low wage, hence inequality in this respect also, and situations of unequal exchange and exploitation. Intrafamily domination and emancipation towards equal status, power and rights and duties is a major problem of mankind. The domination can also be group-wise, as with colonial situations, and equal status obtained by independence or liberation. All this covers, of course, a large variety of situations according to cases, places and historical periods.

The absence of subjection, or of strong forms of it, is jointly an equality in itself, relational, and, if all members of a group (or of mankind) have to be free from the corresponding domination, an equality *of* liberty and an equality as generality (or universality).

4. Equality from logic

4.1 An overview

The basic property is *equal treatment of equals in the relevant characteristics*. It results from logic for two different reasons. In one, *equality as rationality*, it results from rationality in the relevant and most common sense of providing a reason, justifying. This holds whatever the reason, and even from simply being favourable to provide a reason since it is a necessary condition for all reasons. The second way in which logic requires equal treatment of equals is the property of "permutable treatment of equals" plus the requirement of full determination (unicity) of the result. However, equality of equals is sometimes an inferior solution and, then, "permutable treatment" is the second-best logically egalitarian concept. These are the topics of the two next sections. We then appraise the very famous principle of "non-sufficient reason" for inequality and show that it is either fallacious, tautological in two possible ways, or any of the two above reasons.

The relevant characteristics may include, notably, a description of the relations to possibilities. At any rate, this equality can be *prima facie*, that is, in the absence of an overriding reason which may be impossibility or the joint relevance of some other value (which may be the ideal equality of something else, a unanimous benefit from leaving equality, and so on).

4.2 Equality from rationality

Equal is rational, rational is equal. Indeed, rational, in its most common sense, used here, means to give a reason, to justify, or to begin to do it or at least to intend to. It opposes irrational, unjustified or arbitrary. Assume individual (justiciable) i receives x_i of the relevant item of any nature (goods, income, wealth, position, right, freedom, power, respect, honour, reputation, consideration, bundles of these, etc.; the item may even be a rule providing something to an individual as a function of some facts possibly including some characteristics of hers, and the equality is that the same rule is used for various persons, a derived *rule-equality* which will shortly appear to be the very form of rationality itself). If this x_i is intrinsically justified, given a reason for, this reason a priori refers to a number of relevant

characteristics of individual i, of any nature. The set of these relevant characteristics is denoted as y_i. The reason that leads to choose x_i because of y_i is described by a function

$$x_i = r(y_i). \tag{1}$$

Note that we write (1) rather than $x_i = r_i(y_i)$ with a function r_i proper to individual i because, in this case, the reasons, a priori proper to individual i, that leads one to write r_i should be included in the set of relevant characteristics y_i and the function takes form (1). Moreover, a complete social choice determines a unique x_i, and then r is a proper function. Then, if another person, j, has an identical (equal) set of relevant characteristics, $y_j = y_i$, relation (1) implies that she receives $x_j = x_i$. This equality is derived from the simple requirement of justifying, giving a reason, that is, from social rationality.

Note that this rationality provides, in fact, two (equivalent) types of equality: a *conditional equality*, $x_i = x_j$ if $y_i = y_j$, and a *functional equality* meaning that the same function r is used for all individuals, which manifests the universality of rationality (giving a reason) fully applied. The former is also *substitutability*, that is, if another individual j than i, for which $y_j = y_i$, is substituted to individual i, then $x_j = x_i$. The latter is also called *rule-equality*, that is, the same rule r, rather than specific rules r_i possibly different for different i, relates y_i to x_i; rationality (in this most common sense) implies rule-equality.[1] In this rational equality, there is no direct comparison between x_i and x_j. Their equality results from a requirement of rationality when $y_i = y_j$.[2] Sentiments of justice or fairness refer in particular to the choice of the relevant characteristics y_i. This choice implies the answer to the question "equality among whom?" A particular form of characteristics y_i is simply "belonging to a certain set of individuals I"; then the x_i of all these individuals should be *prima facie* equal.

The property of equal x_i for equal y_i holds *irrespective of the specific reason r*. The simple fact of giving a reason, justifying, suffices for this result. This is the common grounds of all reasons and a necessary property for the existence of a reason. Hence, the mere a priori posture or intention to provide a reason whatever it is suffices for the result "$x_i = x_j$ if $y_i = y_j$". This is strictly minimal rationality.

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[1] The converse is not true, although it generally holds. Most rules describe reasons. Logically, however, there can be rules not justifiable from a reason.

[2] If direct comparisons are furthermore introduced (see section 7), function r may also depend on x_j for $j \neq i$ for these comparisons. Then, it should also depend on y_j, and $y_j = y_i$ entails the comparison between x_i and x_j which favours $x_i = x_j$.

A remarkable consequence is that if one has to share something perfectly divisible between a number of persons who have no other relevant different characteristic, their y_i is – or amounts to – belonging to this group and hence is the same for all, and general a priori rationality (and more generally any particular rule consistent with the constraint) requires equal sharing. No reason can give another choice: any other choice is necessarily without a rule and hence without a reason – i.e. irrational. Equal sharing is the only rational (and ruleful) solution (a unique one if all the good is distributed). This is, of course, what is usually done. An example can be drawing lots between these persons: rationality requires allocating equal probabilities to them.

4.3 Permutable treatment of equals

Denote as $z_i=(x_i, y_i)$ the pair of x_i and y_i. Choose the set of characteristics y_i as being sufficiently encompassing for z_i to include all that concerns person i for the judgment under consideration. Then, if individual i is attributed z_j instead of z_i whereas individual j is attributed z_i instead of z_j, the two social states are not relevantly discernible and are equivalent for this evaluation. Hence, any permutation of the z_i between the persons i creates equivalent social states. Consider now that all the individuals i belonging to a subset I have the same sets of characteristics $y_i=y$. Then permuting the $z_i=(x_i, y)$ between persons i of I is identical to the same permutation of the x_i only between them. Hence, these permutations of the x_i give equivalent social states. This is *permutable treatment of equals in the relevant characteristics*. Consider three applications of this property.

4.4 Full determination

If some of these x_i differ from one another, these permuted social states are not all identical since at least one individual has different x_i in some of these states. However a virtue of a principle of social choice is that it be *complete*, providing *full determination*, that is, it designates only one of the alternative social states rather than several equivalent ones. Indeed, notably, action and implementation is the realization of one of these mutually exclusive possible alternatives only, and the principle fully plays its role of guiding the choice solely if it has this property.

Now the states derived by the permutations of the x_i between the persons i of I (with $y_i=y$) are one and the same state if and only if all these x_i are the same. This is equal treatment of equals in the relevant characteristics. Therefore, *permutable treatment of equals plus full determination implies equal treatment of equals*.

4.5 Permutability as second-best equality

However, it may be that, actually, some unequal treatment of equals is better than equal treatment of equals. For instance, some collective tasks are better performed with a hierarchical organization of the people, even if they a priori have the same capacities. This is conspicuous for the military defense of society, but it is also the case for many productive or administrative tasks: firms and administrations have everywhere a hierarchical organization. Then, people have different powers, which usually entails different statuses (and unequal pays). Society (and all its members) may also benefit from a differentiated education of people, even if their abilities in all respects are a priori identical. Savings provides another example. Aggregate savings become investment and provide growth. Since people usually save a larger fraction of their income when this income is larger, an unequal distribution of income provides higher aggregate savings even if people have the same propensity to save (as a function of their income). For a similar reason, private support of the arts benefit from unequal income distributions (with rich sponsors). There may also simply be a limited number of non-divisible consumption goods or tools, and it is usually better that they are actually distributed and used rather than not using them at all which is the feasible equality. In all such cases, unequal treatment of a priori equals is generally better than possible equal treatment. Everybody may benefit from it.

In such situations, permutations of the different x_i – ranks, education, incomes or items – among individuals i with identical $y_i=y$ provide social states that cannot be judged otherwise than "equally good" from an external standpoint although they are not so for each individual. This permutable treatment of equals is the "egalitarian" property of such cases. The property it keeps from equal treatment of equals is the equal social value – in some sense – of permutations of individuals' allocations. It is a kind of second-best egalitarianism. The drawback is that the corresponding social choice is no longer fully determined by the problem alone. A strictly egalitarian desire to equalize the individual situations leads to an overall worsening. Using lotteries or rotation are classical means to face such situations (both were

used, for instance, by the Athenian democracy to fill official positions). Lottery provides a choice with the possibility of ex ante equality, but it leaves the actual, ex post, inequality.

4.6 The principle of non-sufficient reason

Answering the question "Why equality?" by the trivial "Why not?" seems hardly serious. However, "if there is no reason for inequality, choose equality" (or "if there is no good, valid or sufficient reason for it") is the "reason" for equality proposed by innumerable people, including some of the best minds (Aristotle in the *Nicomachean Ethics*, Hobbes in *Leviathan*, Locke in the *Second Treatise on Government* – with the addition "If God wanted us to treat them unequally, he world have given us a sign" –, Conrdorcet in his 1789 proposal for a Declaration of Rights, and nowadays, after Berlin in 1956, Benn, Peters, Hart, Graham, Bedeau, Lukes, Williams, Brandt, Brown, Hare, Frankena, Perelman, Grinsberg, Barry, Parfit, Miller, Sandmo, Atkinson, Marcil-Lacoste, Norman, Tugendhat, Rawls who proposes that a good reason would be that everybody or the poorest benefit from inequality, and so on). Consider, however, the following properties of this most famous position for equality.

(1) Indeed, if there is no reason, or good or sufficient reason, for inequality, what else can one advocate but equality? This seems to be a tautology about providing reasons. Any other choice would be irrational or arbitrary.

(2) However, if this argument in favour of equality is of any use, this implies that there is no other sufficient reason for equality either. Then, consider any state with inequality. There is no reason for any other state, with equality or inequality. Therefore, the same argument leads one to advocate this specific unequal state. Finally, this argument leads one to choose any state, equal or unequal. This apparent tautology is in fact worse: a fallacy.

(3) The same reasoning is the "principle of non-sufficient reason" which is the basis of the axiomatic epistemic foundation of the theory of probability, introduced by Laplace and… Condorcet: if there is no reason for an event to be more likely than another, attribute equal probabilities to them. However, it is, there, an axiom. This suggests that, in social ethics, this statement could just express a "moral taste", an a priori preference for equality. What it adds to just expressing this is open-mindedness: if there is a reason, a fortiori a good or valid reason, and unavoidably a sufficient reason, for states with inequality, one is ready to abandon this preference. However, equality and inequality are a priori unevenly treated: a reason is required for inequality, not for equality. This is a *prima facie* preference for equality. But not

a justified one, so far. Why this unequal treatment of equality and inequality, this asymmetrical status of symmetry and asymmetry?

(4) However, preferences also intervene for deciding what counts as a good, valid, acceptable, and in the end sufficient reason for inequality, that is, one that can override the choice of equality. Therefore, the statement is: "I choose equality if I do not prefer something else to equality". However, this can mean two things, depending on whether just preference is considered or the necessity of choosing also is. First, we have pointed out that this choice of equality is to be seen as resulting from a preference. Hence, the statement just says: "I prefer equality if I do not prefer something else to equality". This is a strange preference structure which omits indifference. Second, in fact, a choice has to be made between mutually exclusive alternatives. Then, the statement becomes: "I prefer to choose equality rather than anything else if I do not prefer to choose anything else rather than equality", which now is a tautology.

(5) Nevertheless, the absence of reason for inequality may also mean two other things. One is that no imaginable reason for an overall allocation gives inequality. This certainly implies that all possibly relevant characteristics y_i – which could a priori be used for such a reason – are identical for all i. Then, for any reason r, the definite $x_i = r(y_i)$ are also identical for all i. This simply is the general a priori equal treatment of equals.

(6) In particular we have to choose the allocations x_i to the individuals i who belong to a certain set I, and we have no (other) reason for this choice. Hence, the relevant characteristic of these individuals is only that they belong to the set I. This is y_i for all these i. Hence these y_i are identical. Then any reason based on them gives identical x_i for all i. Note that, here, there is no a priori other reason neither for equality nor for inequality.

(7) A different type of reason can justify the principle. With sufficient sets of characteristics y_i, permutations of the individuals' pairs $z_i = (x_i, y_i)$ among the individuals are not discernible. Then, if all these y_i are equal (perhaps just for i belonging to the set I), this permutation is identical to a permutation of the individual allocations x_i only among the individuals. These permutations are therefore equivalent for any impartial judgment. If one is a solution, so are the others. Yet, when the x_i are not all equal, some of these permuted states differ from one another since at least one individual receives different x_i. However, a complete social choice consists of a unique solution. Then, this can only happen if the x_i are all equal. Equality results from permutable treatment of equals and the requirement of full determination of the choice. Sharing the cake between two equal individuals in proportions (1/3, 2/3) or (2/3, 1/3) is equivalent in moral terms although it is not for each individual. For

the proportion (1/2, 1/2) only this multiplicity is avoided. We have pointed out cases in which equal treatment of equals is less good than equal allocations, but the outcome then is not uniquely determined.

Finally, the non-sufficient reason for equality is either a fallacy, one of two tautologies, or any of the two basic logical requirements of *prima facie* equality.

5. Equalities determining the overall distribution

5.1 The five alternative equalities of distributive justice

Besides the equalities protecting against force in non-subjection, basic rights and democracy, the most important role of equalities may concern the overall distribution of the resources of society. Equalities are used in many types of relations. Walzer (1983) argues that this is how it should be with equality in each of a variety of "spheres of justice". One sphere, however, is much more important than others in volume: that in which income distribution is determined (especially since various services can optionally be bought with disposable income – i.e. put in the market sphere). This overall distribution of the resources of society through income is the domain of "macrojustice" – the economic dimension of the domain that John Rawls calls social justice. It contrasts with the multifarious issues of "microjustice" specific as regards goods, people or circumstances, and with issues of "mesojustice" concerned with specific goods but important ones that concern everybody (e.g. education and health).

For macrojustice, five polar theories of the appropriate distribution are classical and important claims. As for all theories of justice, they are characterized by what they hold should be equal. These equalizands are characterized by two aspects. One is their substance (material, currency, metric) such as income or resources, welfare as happiness, or, in an equality from generality, self-ownership. The second is their structure, as with an ideal equality in individuals' income, resource endowment or welfare, or an equal weight in the highest sum of welfare (utilitarianism) or of incomes. Figure 1 shows this overall structure of the issues. The values of liberties, responsibility, entitlement, happiness, needs, deserts and merits are implicit, as shortly seen.

[Equality Figure 1 about here]

Figure 1. The topology of equality

These five polar equalities of social justice are very different in nature. The most tangible of these equalities is that of incomes. Welfare classically means, in this context, psychological welfare, for instance satisfaction of happiness. Economists represent it by individuals' utilities. Concepts of equality, addition, or other operations, concerning such notions are, of course, problematic, but classical theories consider them and this may more or less provide rough guidelines for policies. Income egalitarians differ from welfare egalitarians by their holding that individuals are accountable for their own different capacities to enjoy (utility functions). If, in addition, people are also entitled to their own capacities to produce and earn, the result is equal self-ownership. It suffices, for it, to say that each individual has self-ownership – hence it is also an equality from redundancy, generality or universality.

Equalities in welfare or income that cannot give more to each can also be described as maximizing the lowest individual endowment of these items, or "maximin". If equality is desired because individuals who have little of the item have too little, and if some situation with inequality can give more to everybody than situations with equality, equality is to be replaced by maximin (for instance Rawls's (1971) "difference principle" for "primary goods" and Kolm's (1971) "practical justice" for interpersonally comparable welfare). This assumes that policy can improve the lowest endowment without excessive cost (notably in terms of lowering those of other people).

Equality in weights is a priori anterior – more "upstream" – in the evaluation. Nevertheless, the egalitarian aspect of utilitarianism due to equal weight is classically forcefully (and redundantly) emphasized by Bentham quoted by John Stuart Mill: "each is to count for one and nobody for more than one". It is the basis or Hare's (1981) defense of this philosophy as an interpretation of Kant's view that each individual should be given consideration (it seems, however, that the product of individual utilities would not give them less equal consideration than their sum – it amounts to comparing relative variations in utilities rather than their absolute variations).

5.2 The bi-equality of the overall distribution

If everybody, which includes voters and officials, holds that some social principle is irrelevant for a problem, this principle cannot be implemented for this question on social grounds. Now people actually hold that the comparison of individuals' capacities to enjoy (hedonistic capacities) or their variations, and of their tastes, is relevant for allocative choices in two types of cases: when they refer to suffering and when the distribution is between people who sufficiently know one another to feel empathy towards the others. Allocations in a hospital or in a family are typical cases. If national fraternity actually ruled the minds, or in case of national disasters creating general suffering, the principle would be welfarism. In the other cases, people's opinions about income distribution are instances and associations of the other two cases only, income egalitarianism on the one hand, and the self-ownership of classical liberalism on the other. The resulting social and political synthesis or compromise is a mix of these two values.

The normal way of representing the resulting incomes is that they are the sum of two parts, an egalitarian income and a classical liberal one. For clarity, denote as i one of the n individuals, y_i her income, ℓ_i her labour, w_i her wage rate. Her earned income is $w_i \ell_i$. The average wage is $\overline{w}$. The *egalitarian income* is the *equal* sharing of individuals' earnings during an *equal* labour k, kw_i for individual i. This egalitarian income is $k\overline{w}$. Above that, however, individuals are *free* to work ℓ_i and keep their earning for the extra labour, $(\ell_i - k)w_i$. Their total income is

$$y_i = k\overline{w} + (\ell_i - k)w_i.^3$$

This redistribution is egalitarian in various respects. On tangible grounds, it is the more egalitarian the higher the equalization labour k is (it is not at all for k=0). On rational grounds, it has a number of remarkable egalitarian structures. It transfers equally from each in labour (or in equal proportion of her capacities), and to each equally. It implies an *equal minimum income $k\overline{w}$*. It amounts to each receiving an *equal basic income $k\overline{w}$* financed by an *equal labour k* of each or in *equal proportion k* of each capacity w_i. It also amounts to each individual yielding to each other the product $w_i \cdot (k/n)$ of an equal labour k/n in a kind of

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[3] For individuals participating to this redistribution, the equalization labour should be such that $k \leq \ell_i$ because people do not accept taxing leisure (if $w_i > \overline{w}$), and providing a wage supplement (of $k(\overline{w} - w_i)$ if $w_i < \overline{w}$) to hours which provide no wage seems absurd.

general equal labour reciprocity. It is also *equal free exchange* (labour) *from an equal allocation* ($k\overline{w}$ in income and k in labour or the complementary leisure).[4] Finally, the two parts of income are equality according to deserts and to merit (i.e. including the effects personal capacities w_i), respectively.

6. Equality of liberty

6.1 Equal negative, protective or civic liberty, or basic rights

The use or threat of force may be steady or occasional. A person may incur it from others as individuals, in groups or through institutions. The absence of such forceful interference defines a freedom called social, protective, negative (a term of Kant, John Stuart Mill and Berlin) or civic (John Stuart Mill). Its application to various specific issues constitutes the basic rights or basic liberties. With this freedom, a forceful constraint on someone can only implement a previous acceptation of it and notably a previous agreement (possibly an implicit one) of this person. This absence of force in inter-individual relations is an equality, and a general basic demand of modern society is that all individuals benefit equally from such liberty (equality as generality or universality). This demand is even that this liberty has priority.

Is this general equal liberty with priority possible, however? This raises an essential conceptual issue with important consequences. Many thinkers, such as Rousseau, Condorcet, the text of the 1789 Declaration, John Stuart Mill and Rawls have held that these basic liberties or rights should be, with priority, "equal for all and, then, maximal" (Rawls even admits inequality if this permits each to have more, as he does about "primary goods"). However, they consider jointly these rights and liberties plus some means to make them actual possibilities or "real" (Marx). However, there is no limit a priori to these means (to the number of private planes and airports for freedom to move, the size of the cathedrals for freedom of worship, the privately owned media for freedom of expression). Then, this principle uses all the resources of society without even a principle for choosing between these various real liberties. The solution of defining some amount of means for each right is a priori

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[4] Basing a tax on the wage rate can be done as in the present French tax law, by exempting overtime labour earnings from the income tax, over a low benchmark. There is de facto no cheating (because it would be too complicated to hide it from the possible controls). The full theory adds other dimensions of labour than duration, notably formation (Kolm 2004).

arbitrary. Moreover, some kind of equality of these means for all would be found worse by everybody than some other, unequal solution because people make different uses of these rights and have different preferences about them.

The rational solution consists of distinguishing the formal rights from the means of benefiting from them, and to put the question of the means in that of the general distribution and of the free exchanges of goods resulting from it (with the possibility of some minimum income – see section 5). Then, when actions or intentions of different individuals oppose one another and cannot be implemented jointly, this opposition can be attributed to the means and is solved by the property rights about them (for instance the occupation of the same place at some time) and not to the "formal" rights in themselves. Then these rights are non-rival between themselves and can be equally held in full and used at satiety by everybody.

6.2 Equal real liberty

The next issue about liberty concerns people's means of free action. This is the topic of section 5. The necessary distinction between general "macrojustice" and more specific issues of "microjustice" and "mesojustice" is explained there. The basic liberties imply equal free exchange, given the overall income allocation. The theory of macrojustice obtains a structure of distribution which can be defined in various ways as equal liberty (although with different domains of choice as a result of the different earning and productive capacities of the individuals).[5]

6.3 Equality of opportunity

Equality of opportunity describes a set of cases of equality of liberty to be found at all levels and in various issues of justice. A priori it means the identity, for various agents, of a set of alternatives among which each can choose. In the standard and most common meaning, this refers to social conditions of access to certain benefits, positions, situations, jobs (for instance with regard to various types of discrimination or family influence) or possibilities (such as access to receiving types of education). The concept has been extended to transform these formal freedoms into more "real" ones, and these direct choices into their outcomes, by

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[5] Kolm 2004, 2008.

adding the effects of personal capacities and social settings and thus considering opportunities for income, achieved level of education, or the actual performance required by jobs or positions (perhaps for given levels of effort). Equality of opportunity thus describes cases that are different and sometimes opposed. This explains why politicians of all kinds love the concept whereas practically all philosophers criticize it severely.

The initial motives for equality of opportunity came or comes from two different and opposed sides, one for realizing an equality and the other for criticizing another equality. The equality realized is that of some possibility of choice, as the name indicates (for example, one wants access to certain positions without discrimination or other obstacle). The other motive is the objection to the equalization or uniformization, for different people, of results due in part to their actions, and the demand to replace this equality by that of domains of choice in which these agents choose. Since this change generally leads to unequal results of actions, this stance is anti-egalitarian in this sense. The emphasis is often not only on the comparison between the agents but also on some competition between them, for which the equality of opportunity is supposed to provide fair conditions. This elicits the classical leftist judgment, preferring not only the "actual" equality but also or mainly the possibly convivial relationships jeopardized by the competition, that "equality of opportunity is good for horse races but not for humans". However, equality of opportunity is also both liberty and an equality in possibilities the deprivation of which includes cases generally considered the most unjust features of societies.

The basic feature and difference between the cases consists in the definition of the opportunities or lack of them in question. The main one refers to discriminations limiting choices, according to "race", family, caste, order, gender, faith, and so on. Even without formal discrimination, the principle often refers to advantages provided by family relations, including favouritism, nepotism, social networks, information, direct support, and the role of families in education at home or at school. A basic issue is whether personal capacities, innate or due to family influence, notably in childhood, are counted among the sources of the opportunities in question or not. The famous slogan "the career opened to talents" discriminates according to talents only, banning other social discriminations. "Positive discriminations" usually try to compensate the relative handicaps due to social setting and family influence.

The simple slogan "equality of opportunity" thus covers a number of cases quite different and which can belong to opposite ethical positions. Formally, there are several types of equality of opportunity.

-*Negative equal opportunity in action* bans formal social discrimination of all kinds.

-*Positive equal opportunity in action* helps people who cannot perform some relevant action to actually perform it.

-*Equal opportunity in action and result* implies that if some people choose to perform the same action, they will obtain the same outcome, possibly with help for those with unfavourable capacities or circumstances (notably social environment).

The next step would simply be equality in outcome, which is not equality of opportunity from the point of view of its causes, but can be equality of opportunity for the further use of the outcome in so far as it is an intermediate product – such as this aspect of education or health.

6.4 Responsibility-free equality

Liberty implies responsibility which requires liberty. Hence an egalitarian philosophy that respects freedom can be: people are entitled to or accountable for what they are responsible for, and the rest is equally shared. This raises the issue of defining responsibility in the frequent case of joint effects of actions of several people. This problem is solved when the actions and the sharing of the outcome result from a direct or indirect agreement since the participants are jointly responsible for it. In recent time, responsibility-free equality has been advocated the most clearly by Gerald Cohen (1989), and closely analyzed on philosophical grounds by Matt Matravers (2007) and on economic grounds by Marc Fleurbaey (2008) as a *prima facie* principle (e.g. someone who hurts herself may have to be helped nevertheless). Although responsibility raises other notoriously difficult issues and cannot be said to be the only criterion, these positions fostered reflection on this important topic. A particular application on a delicate point differenciates two main theories of what should be equal: Rawls (1971) and Dworkin (1981) hold people responsible for their tastes, preferences, capacities to enjoy or ambitions, whereas the ordinary "welfarist" theory includes compensations for their differences.

6.5 Fundamental insurance: equal hypothetical liberty

A "fundamental insurance" is a hypothetical mutual insurance taken by people against the risk of some disadvantage which, actually, they already have. This may be, for instance, having a poor health or having received a poor education induced by the family. This theory provides a rationale for corresponding compensating transfers that mitigate the inequality. It rests on a putative free choice (exchange) and is a "partial original position" with a "partial veil of ignorance". Its assimilation of a choice concerning justice to a choice in uncertainty, a priori problematic, is to be accepted if this is general opinion. This is the case, for instance, for the European system of public health insurance: the fact that what people pay does not depend on their given propensities to be sick implies a "fundamental insurance" of these handicaps.[6]

7. Comparative egalitarianism

Sentiments favouring equality are often the result of direct intuition-like comparative judgments. However, the logical "equal treatment of equals in the relevant characteristics" certainly lurks behind such emotions. Nevertheless, such judgments seem close to aesthetic ones, as remarked by Kant and confirmed by location on brain imagery (*fair* comes from a Germanic word referring to beauty, and the Greek and Latin concept for beauty, *kalon* and *pulchrum*, were never neatly and consistently distinguished from the moral good).

When the individual items that are compared have several dimensions about which the individuals can have different preferences, it is possible that *no individual prefers any other's "allocation" to her own* without these individual allocations being identical. This principle, called *equity-no-envy*, is one of the most commonly used in egalitarian studies since the early 1970s. Its egalitarian properties are readily seen. If there is one (desired) dimension only, it implies equality. If the individuals have identical preferences, the principle implies that they are indifferent between all individual allocations. However, the most important egalitarian property of this principle is that it amounts to an equality in liberty. Indeed, it is satisfied if and only if there exists a domain of choice such that each individual's allocation can be chosen by this individual (with her given preferences) in a domain identical to it (the proof is rather easy). The analysis of this principle in Kolm (1971), after mentions by Tinbergen and Foley, was followed by a large number of applications and variants reviewed by William

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[6] Fundamental insurance, a particular case of "liberal social contracts" (Kolm 1985) is also directly proposed by Dworkin (1981).

Thomson (2008). It cannot be called "no envy" by itself because the sentiment of envy arises from the joint presence of the other's and one's own allocation in one's "utility function", but it is formally related to structural properties of a genuine theory of envy (Kolm 1995).

8. Political equality: Democracy

One of the most important application of equality is to politics, in the realm of democracy. The Athenian four equalities of democracy still provide the basic framework:
-Equality before the law, or *isonomia*.
-Equality in voting, "one man one vote", or *democracy stricto sensu*.
-Equality in public expression for influencing others, or *isegoria*, as equal right to time of speach in the assembly of citizens.
-Equality in the *access to official positions*, implemented by drawing lots or by rotation.

This was for a middle-size society, with officials but a priori the possibility of mutual influence between citizens. Women, slaves and foreigners were excluded, and official positions soon became the privilege of members of influent families.

Later democracies had a variety of restrictions to voting rights or access to positions. In present-day mass societies, the most violated democratic equality is isegoria, since the flow of public messages is that of the mass media in which a tiny aristocracy of journalists, media owners and politicians send views, values, information (and entertainment) to the mass of the people who are gaggled in this respect. In relation with the inegalitarian economy, democracy has led to important redistributive transfers in many countries, and yet it also includes exchanges of campaign funds for favourable laws. The various specific rules of particular democratic systems also raise innumerable issues with respect to equality. In the end, the main egalitarian virtue of democracy is as a barrage against dictatorship, the harshest inequality.

9. Equality and impartiality

From a social point of view, humans manage to shelter two opposes selves "in their breast" as Adam Smith puts it. Their self-centered and partial self favours themselves and the people they like or have particular relations with only. But they also have an impartial self able to

take an objective view putting everybody – themselves included – on the same footing: This is what Thomas Nagel (1986, 1991) calls "the view from nowhere" – but is there such a place as nowhere?

A priori, the distribution most favourable to someone's strict interest is without equality. However, among situations with equality of some kind, one (in general) is most favourable to this person's interest than the others. For instance it is equal incomes (barring incentive effects) for people with low earning power, and equal self-ownership in the free market for people with high earning power. The person's impartial self, however, will make a third choice, with some sort of equality. But will this latter choice be the same for everybody? This is often believed, for instance by Adam Smith, by John Stuart Mill who believes that the equality is that of the weight in an egalitarian sum of utilities (and probably by Thomas Nagel). However, the only logical requirement of an impartial judgment is that it respects equality of some sort. Hence, there is a priori a very large choice for such a judgment. Moreover, the impartial individual evaluation uses some psychological characteristics of this person which a priori differ from one person to the other. Therefore, there are a priori different impartial evaluations (hence with different equalities) for the various individuals – other phenomena such as a common moral culture or mutual influence through dialog can change this.

This occurs in particular for the most famous modern theory of impartiality, the theory of the *original position* in which each individual considers she has an equal chance of being any of the actual individuals (Harsanyi (1976); Rawls's (1971) theory introduces other elements). Each individual's such evaluation depends on her preferences about being the various individuals and about risk, and hence is specific to her. The logical solution consists in considering original positions of original positions in a converging recurring series (Kolm 2004).

10. Equality as lower inequality

Philosophers discuss equality, but since large equalities never exist in real life, sociologists study inequality and economists compare and measure inequalities. This comparison and measure of inequality has developed into a very large field of studies from the mid-1960s. Questions such as the following are analyzed. Does income inequality increase or decrease

when all incomes vary in the same proportion of by the same amount? Does a transfer from a richer person to a poorer one diminish inequality (it augments the inequalities between the poorer and the equally poor and still poorer, and between the richer and the equally rich and still richer)? Are the relevant inequalities relative or absolute? And so on.[7] Multidimensional inequalities and inequalities in liberty are also studied. The *Handbook of Income Inequality Measurement*, edited by Jacques Silber (2000), gathers the reflections of most of the experts.

Multidimensional equalities, that is, equalities in each of several goods, for produced goods and since people a priori have different tastes, are in general such that other, unequal distributions are preferred by everybody. However, there are allocations of these goods that do not have this property and can be defined as the "most equal ones" in this case. But if each individual consumes some of each good, the solution amounts to equal incomes.[8] One famous proposal of such multidimensional equality is Sen's (1985) for individuals' "capabilities"; the noted result applies to it.

11. Positive relational equalities, reciprocity

Equality in social relations is not only non-domination, not too unequal distribution or non-envy. It has many other dimensions. Equality can also be in status, respect and consideration, with, notably, mutual respect and consideration. In such a society, people relate with one another on an equal footing and interact with others as *alter ego*. They are knights of the round table of society. Such a *society of equals* is something else than an egalitarian society, although it certainly limits the inequalities of various types. It adds a requirement of liberty in the consideration of others, which situates these relations on the verge of fraternity.[9]

These positive relational equalities can be supported by a basic sociopsychological property of humans, the tendency to treat others and relate to them as they treat you and relate to you, reciprocity, a relational egalitarian reaction which is a main cement of society.

References

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[7] Kolm 1966.
[8] See Kolm 1977, 1996b.
[9] Interesting discussions of relations between equals can be found in particular in Mauss (1924), and Miller and Norman in Mason (1998).

Berlin, I. (1955-56). Equality. *Proceedings of the Aristotelian Society*, *LVI*, 301-26.

Cohen, G.A. (1989). On the currency of egalitarian justice. *Ethics*, *99*, 906-44.

Dworkin, R. (1981). What is equality? Part I: Equality of welfare; Part II: Equality of resources. *Philosophy and Public Affairs*, *10(3/4)*, 185-246, 283-345.

Fleurbaey, M. (2008). *Fairness, Responsibility and Welfare*. Oxford: Oxford University Press.

Hare, R.M. (1981). *Moral Thinking*. Oxford: Oxford University Press.

Harsanyi, J.C. (1976). *Essays in Ethics, Social Behaviour and Scientifc Explanation*. Dordrecht: Reidel.

Kolm, S.-Ch. (1966). The optimal production of social justice. In H. Guitton & J. Margolis (Eds.), *Proceedings of the International Economic association Conference on Public economics*, Biarritz. *Economie Publique* (pp. 109-77), Paris: CNRS, 1968; *Public Economics* (pp. 145-200), London: Macmillan, 1969.

Kolm, S.-Ch. (1971). *Justice et équité*. Paris: CEPREMAP. Reprinted Paris: CNRS, 1972. English translation: *Justice and Equity*, 1998, Cambridge MA: MIT Press.

Kolm, S.-Ch. (1977). Multidimensional Egalitarianism. *The Quarterly Journal of Economics*, *91*, 1-13.

Kolm, S.-Ch. (1985). *Le Contrat Social Libéral*. Paris: Presses Universitaires de France.

Kolm, S.-Ch. (1995). The economics of social sentiments: The case of envy. *The Japanese Economic Review, 46*, 63-87.

Kolm, S.-Ch. (1996b). The Theory of Justice. *Social Choice and Welfare, 13*, 151-82.

Kolm, S.-Ch. (2004). *Macrojustice, The Political Economy of Fairness*. New York, NY: Cambridge University Press.

Kolm, S.-Ch. (2008). Equal liberties and the resulting optimum distribution and taxation. In J. Bishop & B. Zheng (Eds.), *Inequality and Opportunity*. Emerald.

Mason, A. (1998). *Ideals of Equality*. Oxford: Blackwell.

Matravers, M. (2007). *Responsibility and Justice*. Malden, MA: Polity Press.

Mauss, M. (1924). Essai sur le don. *Année sociologique n.s. 1*, 30-186. English trans. *The Gift*, 1967. New York: Norton.

Nagel, T. (1986). *The View from Nowhere*. Oxford: Clarendon Press.

Nagel, T. (1991). *Equality and Partiality*. Oxford: Oxford University Press.

Parfit, D. (1995). *Equality or Priority*. The Lindley Lectures, Laurence: University of Kansas.

Rawls, J. (1971). *A Theory of Justice*. Cambridge: Harvard University Press.

Rousseau, J.-J. (1755). *A Discourse on Inequality*. London: Penguin 1984. Partly reprinted in L. Pojman & R. Westmoreland (Eds.), *Equality. Selected Readings* (pp. 36-45). Oxford: Oxford University Press 1997.

Sen, A. (1985). *Commodities and capabilities*. Amsterdam: North-Holland.

Silber, J. (2000). *Handbook of Income Inequality Measurement*. Dordrecht: Kluwer.

Thomson, W. (2008). Fair allocarion rules. In K.Arrow, A. Sen & K. Suzumura (Eds.), *Handbook of Social Choice and Welfare*. Amsterdam: North-Holland.

Walzer, M. (1983). *Spheres of Justice. A Defence of Pluralism and Equality*. New York, London: Basic Books.

Further readings

Barry, B. (1975). *Justice as impartiality*. Oxford: Clarendon Press.

Cohen, G.A. (2007). *Rescuing Justice and Equality*. MS.

Dworkin, R. (2000). *Sovereign Virtue: The Theory and Practice of Equality*. Cambridge MA: Harvard University Press.

Kolm, S.-Ch. (1991). The normative economics of unanimity and equality: Equity, adequacy and fundamental dominance. In K.J. Arrow (Ed.), *Markets and Welfare* (pp. 243-86). London: Macmillan.

Kolm, S.-Ch. (1994). Rational justice and equality. In W. Eichhorn (Ed.), *Models and Measurement of Welfare and Inequality* (pp. 970-92). Berlin: Springer-Verlag.

Kolm, S.-Ch. (1996a). *Modern Theories of Justice*. Cambridge, MA: MIT Press.

Miller, D. (1999). *Principles of Social Justice*. Cambridge MA: Harvard University Press.

L. Pojman & R. Westmoreland (Eds.). (1997). *Equality. Selected Readings*. Oxford: Oxford University Press.

Tawney, R.H. (1964). *Equality*. 4th ed. London.

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The author: Serge-Christophe Kolm is professor at the Ecole des Hautes Etudes en Sciences Sociales, Paris. He is the author of fourty books and several hundred scientific articles in economics and other fields of social science. Social ethics and normative economics have been one of his main fields of studies.