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Hard Choices Softened Locally

Enacting New Rules for Organ Allocation

Abstract: The implementation of a new kidney allocation algorithm by Eurotransplant was a 'rule choice' with serious ethical, legal, and political implications. Eurotransplant made that choice in view of a careful analysis of empirically predictable consequences of alternative rule specifications. This paper studies in a stylized way how the decision on the allocation algorithm emerged. Hopefully an understanding of central features of the described successful case of initiating improvements may be helpful in other cases with a similar structure.

1. Introduction

For the political economist with some classical liberal leanings Eurotransplant is a remarkable institution. It evolved spontaneously from the voluntary collaboration of transplant centers in Austria, the Benelux countries, Germany, and Slovenia (since the year 2000). Eurotransplant provides a collective good—creation of a large pool of potential organ donors—without explicit state intervention. In doing so it makes up its own rules in particular of organ allocation. The rules are enforced by the interaction endogenously rather than exogenously through courts, bureaucracies etc.

Applying the conventional distinction between the choice of rules and the choice within rules (see e.g. Brennan/Buchanan 1985), the choice of Eurotransplant's kidney-allocation algorithm—to which we restrict our attention here—must be classified as the 'choice of a rule'. Once this choice is fixed on a constitutional level all further decisions are simple applications of the algorithm. Regarding these within-rule choices not much discretionary power is left for decision-makers: They are bound by the rules—all crucial normative decisions are clearly made on the level of constitutional choice and must be evaluated on this level.

The rule choices must themselves be made according to some standard or other. For instance the wisdom of political philosophy—in particular of its contractarian variant—suggests that a choice of rules may be assessed by standards like that of 'conceivable unanimity'. The meaning of a notion like 'conceivable unanimity' is notoriously contested but the concept has at least some persuasive appeal. A typical construction endorsing the notion of conceivable unanimity would rely on some veil of uncertainty or even a veil of ignorance about consequences for specific individuals (see on these notions Buchanan/Tullock 1962; Rawls 1971, respectively, and originally on the idea Vickrey 1948). To use such a

construction in practice, members of the Eurotransplant-committee could have put themselves in the shoes of a typical citizen who reflects on his interests as a potential organ recipient or donor. Such a citizen might have wondered: Without any information about specific personal needs and characteristics what kind of an organ-allocation algorithm would I choose? Engaging in such exercises constitutional decision-makers might hope to develop (or even construe) clear 'ethical preferences' (in the sense of Harsanyi 1977) for one or another rule that might stand up to critical scrutiny and lead to something akin to a 'reflective equilibrium' (as in Rawls 1951; Rawls 1971; Daniels 1979; Hahn 2000).

As may be obvious from the preceding remarks philosophers and constitutional political economists are quite well aware of the fact that humans do not have predetermined fixed 'constitutional preferences' which they could apply on the level of constitutional choice-making. In that regard the proposal that we use such aids as the construction of a fictitious choice behind a veil of uncertainty or a veil of ignorance for developing our preferences among alternatives seems quite sound. But even though this aspect of contractarian modeling of rule choices—in particular in matters as complicated as those of constitutional choice—seems more realistic than the conventional assumption that complete preferences are 'given' the specific contractarian form of 'consensus building' in the preference construction is widely off the mark.

Consensus building in such cases as preference formation among rules for organ allocation does not rely on fictitious generalization behind one of the several veils proposed in philosophical and economic constructions of rule choices. The example of introducing the new allocation algorithm by Eurotransplant suggests that very clearly, too. It shows that it was not some anticipated ideal consensus that brought about real world consensus. Real world agreement was rather reached by a detailed analysis of likely empirical consequences of alternative rule specifications. For the philosopher, the constitutional political economist and the more worldly minded theorist of choice making as well it is instructive to look at arguments that lead eventually to the acceptance of the algorithm by Eurotransplant.

2. Adjustment Starting From Where We Are

For a fully rational decision-maker the status quo is just one alternative in a set of choices that in principle could be made. Status quo effects like the well-known 'endowment effect' should not matter according to rational decision-theory. All that matters is what is possible if we start from a given status quo and project it into the future. Bygones are bygones in fully rational choice. Contrary to that a boundedly rational decision-maker may treat the status quo as special in that upholding the status quo does not need a justification whereas changing it does. Psychologically the status quo will induce certain frames of reference and our aspiration levels will be heavily influenced by what we have acquired or have experienced up to a specific point in time. Alternatives to the status quo will be evaluated in terms of 'gains' and 'losses' relative to the status quo rather than

on their own account where losses in general weigh more heavily than gains (this aspect, of course, also features very prominently in prospect theory as initiated in Kahneman/Tversky 1984).

These considerations quite directly apply to the issues that are raised by the organization of organ-allocation. Looking back at the situation before the algorithm was introduced by Eurotransplant tissue match or more technically speaking the criterion of HLA-matching was in the last resort determining organ-allocation.[1] Even though under the old system at best 50% of the organs were in fact allocated according to Eurotransplant tissue-matching rules the central place of HLA-matching in the institutional status quo of existing rules and practices was generally accepted. At the same time in the transplantation of kidneys as opposed to organs like the liver or the heart the availability of dialysis allowed people to survive such long times that the question whether differences in waiting-time should not have some weight could not be avoided entirely. When some individuals have to wait just 6 months while others wait for an organ transplant more than 18 years an allocation rule based on HLA-matching, exclusively, would be acceptable only if supported by very strong arguments.

Now, since immuno-suppressive substances like cyclosporin have been developed survival times of organ grafts have improved dramatically. In terms of expected survival time of the graft the difference between one and two mismatches would in general not be seen as overwhelmingly important nowadays. An additional mismatch once in a while should become acceptable if other values like reducing imbalances in waiting-times or international export-import rates could be furthered thereby dramatically. It is most unlikely that a supporter of HLA-matching would not give a little weight to the latter considerations. But even if he or she would not, the fact that others certainly do think that extreme differences in waiting time or great national imbalances are not acceptable is of importance. It threatens the long run sustainability of Eurotransplant as a voluntary association if important members tend to become alienated because they get the impression that their views do not count for much.

It could be demonstrated by simulation-studies that only a little room to maneuver along the dimension of HLA-compatibility made major improvements along other dimensions viable (see Wujciak/Opelz 1993). In these studies access to a huge base of time structured data played a crucial role. In this data base it was documented in which order which types of kidneys became available, how they were allocated, how this allocation affected the waiting list and which transplantation results emerged in the process.

This information was used to develop alternative scenarios and to draw out implications of alternative suggestions of organ allocation. We believe that this mode of operation has merit because it corroborates predictions for alternative scenarios by hardly disputable and very convincing data. The data are directly

[1] HLA-matching refers to 'human lycocyte antigene matching'. The antigenes are essential for the process of immunic reaction to a transplant. If blood type and other aspects of organ and potential recipient basically match then the likelihood of a severe immunic reaction can be predicted to some extent by six antigens that are taken into account by Eurortransplant rules.

linked to the status quo and scenarios can therefore be conceived or accessed from the status quo so to say, directly.

More specifically, on the one hand, the method buys into premises of the adherents of the status quo by accepting an *almost* lexicographic priority of HLA-matching when taking into account other dimensions of value. On the other hand, simulations showed that a reasonable alternative to the existing status quo is in a way 'close by' and in some sense easy to achieve. If only minimal concessions are necessary to take into account aims, ends or values of the critics of established practices and to answer their most challenging criticisms in a convincing way why not make a minimal concession? If a proposed change is superior to the status quo in the sense of offering large gains at small costs but adherents of the status quo are nevertheless unwilling to make even minimal concessions this may put the basic 'overlapping' consensus (on this notion see Rawls 1993) that facilitates collaboration at risk.

3. Decision Preparation and Emergence in Reforming Organ Allocation

Like models of fully rational choice, models of boundedly rational choice making involve three basic elements. First, a problem to be solved, second, a set of at least two possible choices (one of which may be to keep with the status quo) along with some criterion or criteria according to which the possible choices can be evaluated and, finally, some characterization of the process of decision emergence. So let us briefly sketch the three elements in the case at hand.

3.1 Problem Emergence

In models of full rationality, optimization by assumption takes into account the full set of alternatives. The problem is simply 'there' whether or not it be perceived and considered by decision makers. In models of boundedly rational choice making the problem must emerge or come into existence in the first place. A problem will emerge if the status quo ceases to fulfill aspiration levels. In that case a serious effort to 'find' or rather to 'create' alternatives will in all likelihood be made. As long as some status quo fulfills the aspiration levels of all parties concerned there will hardly be any pressure to change anything or to seek for alternatives. That may even be the case if there 'exist' (in some relevant sense of that term) alternatives that would be deemed superior to the status quo *if* perceived. As long as alternative courses of action remain unperceived they do not play any role as 'life options'.

Moreover, even perceived superior alternatives may not play a role as long as they are not seen as being close by in some sense of being within the reach of minor alterations in the existing scheme of things. Alternatives that seem very complicated to bring about or to require an extreme transition effort may be ignored simply for that reason even if they could conceivably pay off.[2] Finally,

[2] David Hume in a classical paper made already a related point. "By opinion of interest,

even if alternatives are perceived and are seen as being close by they may not attract much attention unless something else—by way of some non-anticipated external shock or other—changes the evaluation of the existing status quo such that aspiration levels are no longer fulfilled.

In the case of Eurotransplant problem emergence through frustration by status quo results can quite easily be described. For a long time in the Eurotransplant region kidneys were primarily allocated according to tissue match (about fifty percent of the allocated kidneys) and several special rules defining exceptions to the criterion of histo-compatibility. The emerging status quo became increasingly plagued, however, by two problems. On the one hand, there were persistent national import-export imbalances, on the other hand, disparities in waiting time became increasingly annoying.

Being annoyed need not trigger any response as long as there is no 'real' alternative at hand. In particular there is a broad consensus that 'ought presupposes can'. This indeed is a sound principle. Unless the requirement that something can be done is met no problem in any relevant sense emerges.

A problem will emerge if actors perceive some alternative as viable and as lying sufficiently close to the status quo such that it 'can be done' with acceptabel effort. Focusing on the two problematic aspects that were on the minds of almost all informed participants of the ongoing discussion about organ allocation, namely, disparities in waiting-times and national import-export balances it was demonstrated (see again Wujciak/Opelz 1993) that

- a reduction of the variance of expected waiting-time from 2.5 years to 1.4 years could be brought about by accepting a minimal increase of 8% of average HLA- A+B+DR mismatches;

- severe import-export imbalances in organ transfer—basically disparities between the number of imported and exported organs that exceeded an average of 14 organs per center—could be avoided by accepting only a 16% increase of average HLA-A+B+DR mismatches.

These are local statements that relate to separate changes of rules and only to a specific prevailing empirical situation as characterized by statistical data. It could be shown though that the results were not prone to break down after slight variations of data; i.e. they were not overly sensitive. As indicated in figures 1 and 2 there was a range in which the two criteria under consideration were hardly conflicting in the sense that a much higher fulfillment of one goal (avoiding 'unequitable' disparities of waiting times or international organ exchange rates) at the expense of only a very minor reduction in the fulfillment of another goal (avoiding mismatches) was possible.

I chiefly understand the sense of the general advantage which is reaped from government; together with the persuasion, that the particular government, which is established, is equally advantageous with any other that could easily be settled. When this opinion prevails among the generality of a state, or among those who have the force in their hands, it gives great security to any government." (Hume 1985, 44)

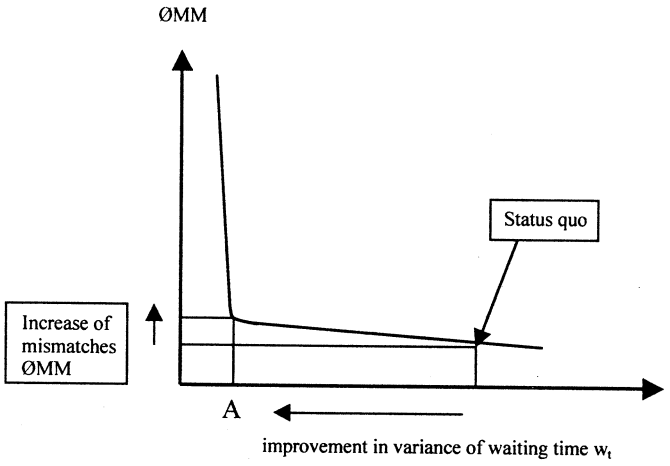

Figure 1

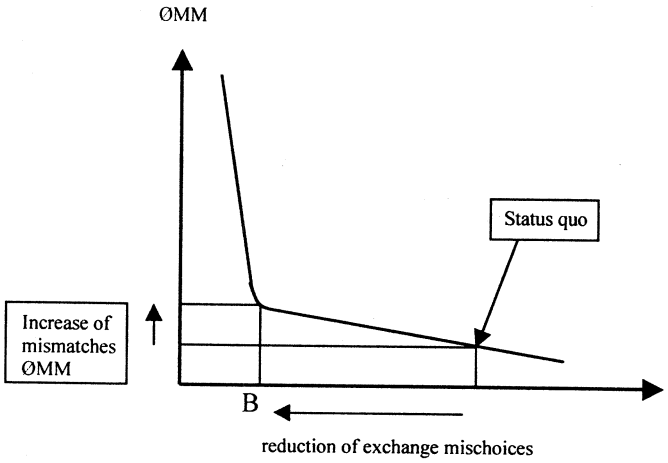

Figure 2

3.2 Developing alternatives

The derivation of trade-off curves like in the schematical illustrations of figures 1, 2 is complicated and technical. It is based on the characteristics of a specific set of data—in the present case of time structured data on kidney allocation in Eurotransplant during the years from 1985 to 1991. This set of data comprises tissue characteristics of organs, tissue characteristics of potential recipients, waiting times of patients etc. as evolving in the past. Relying on this data set it can be simulated which allocations of organs would have emerged under alternative

sets of allocation criteria. Who gets a specific organ is determined according to a multi-dimensional scale comprising dimensions like, quality of tissue match, waiting time, rate of organs transplanted locally (so that organs are not shipped unnecessarily), national organ exchange balances, likelihood of a better match within the next year, status as a child (who might suffer from severe deficits in growth if on dialysis). Along each dimension point values are assigned and then summed up in a weighted linear sum measure.[3] For each and every incoming transplantable kidney the potential organ recipient with the highest point value is chosen.

Though kidneys are somewhat more robust against the effects of so-called cold ischemia (the time the organ is not part of a cardiovascular system) they cannot be conserved for more than 48 hours without risking severe damage to the organs. Therefore the actual sequence in which kidneys with certain characteristics become available plays a crucial role. Along with the criteria the actual sequence co-determines who is removed from the waiting list in which order. In which order kidneys in fact did come in, in the past, is known from the data set. Assigning a kidney according to some set of criteria with given weights it is clear who would have received the next kidney under given criteria. After fictitiously removing the receiver of that kidney transplant from the waiting list the next kidney of the data set is fictitiously allocated etc. After going through the whole data set under one chosen set of criteria the simulated results of that set of criteria emerge and can be compared to results emerging for the given data set under other criteria or different weighting of given criteria.

The simulation results can be used for illustrating the implications of alternative point scales for organ allocation on the overall allocation results and the mutual impact of adjusting the weights in such a scale. Graphically this is done by drawing curves that relate other dimensions of value to the dimension measuring tissue (mis-)match as in figures 1 and 2. In such a curve each point represents a vector of weights for the criteria. For instance, if we systematically increase the relative weight of waiting time in the criteria set as compared to tissue match then disparities in waiting time will be reduced and quality of tissue matching will decrease by some amount. A specific allocation—a point—in the graph as statistically characterized may be brought about by different weights for the scales while different allocations require different weights of the scales. In fact, conceivably an allocation according to some arbitrary combination of dimensions, say, age, height and weight of the donor and the recipient may lead to the same allocation as reached by the inclusion and weighting of intuitively more appealing dimensions.

The arguments for and against alternative allocation procedures or algorithms are all framed in terms of the statistical effects as observed for the set of all recipients of organs. To put it slightly differently, evaluation takes place in terms of statistics rather than in terms of the intuitive appeal of individual allocations. In that sense the 'ethical preferences' are formed behind quite a thick

[3] Whether or not considered individual judgements about organ allocation can conceivably be represented by a linear point scale at all is an interesting issue, see on this Ahlert, Gubernatis and Kliemt in this volume).

'veil of statistical generality' that eliminates considerations concerning individuals or the plausibility of value criteria as applied to the individuals. Evaluation is all about what happens in the data set and not about what happens to individual cases. Clearly different data sets would yield different curves. However, sensitivity analyses showed that smaller variations in the data set would not yield fundamentally different results. The qualitative aspects of the trade-off curves seem rather stable. In particular the fact that there are two realms in which the curve is either very steep or very flat separated by a narrow realm of 'intermediate steepness' seems to be quite robust.

3.3 Evaluating Local Trade-Offs

As long as the characteristic (quasi-rectangular) shape of the function prevails some more general considerations apply. To prepare the ground for those considerations let us first recall the concept of an 'elasticity'. To illustrate this notion assume that the variable y can be treated as a function f of a variable x with the typical expression $y = f(x)$. Starting with discrete changes the notion of 'reactivity', $r_{y,x}(x)$—the relative variation of the variable y compared to the relative variation of the variable x—can be introduced in the following way[4]:

$$r_{y,x}(x) := \frac{\frac{\Delta y}{y}}{\frac{\Delta x}{x}} = \frac{\frac{\Delta f(x)}{f(x)}}{\frac{\Delta x}{x}}$$

Assuming infinitesimal changes and differentiability we get the elasticity

$$e_{y,x}(x) := \frac{dy}{dx}\frac{x}{y} = f'(x) : \left(\frac{f(x)}{x}\right)$$

As can be seen immediately from the definition of $r_{y,x}(x)$ and $e_{y,x}(x)$ the units of measurement cancel out. Therefore, unlike other ways to measure marginal reactivity—e.g. by partial derivatives—elasticities are independent of the units in which the variables are measured.

In the present case low elasticities can be used to characterize a situation of relatively low losses along the dimension of tissue compatibility as related to relatively high gains along another dimension of value like, e. g. avoiding disparities of waiting time. What we relate to each other is 'percentage of value forgone' along one, with 'percentage of value gained' along another dimension. Thus, at least in a way, elasticities measure effectiveness of changes: A minor relative reduction along the (primary) dimension, y, allows for a relatively large increase along another dimension of value, x.

A relatively large increase of value along one dimension can be realized at relatively low costs along another one. Such asymmetries in costs are important in many normative contexts. Characteristically they are used if interpersonal comparisons are at stake. For instance, if a person A with some minor, rather trivial effort can save a person B's life or limb we will in general argue that A

[4] The $\frac{\Delta y}{y}$ percent change of y in relation to the $\frac{\Delta x}{x}$ percent change of x.

is under a moral obligation to help B. In the Anglo-Saxon tradition this might not turn into a legal obligation but in the German legal tradition it would also under many circumstances become a legal duty.[5] In bargaining, a relatively small concession in favor of a large gain of a bargaining partner may be hard to refuse.[6] In coalition formation partners who could get much better terms if others in the coalition would make only very minor concessions may feel such resentment that eventually the coalition itself may be at risk. To keep them 'on board' those who could at low costs to themselves help others to realize their interests to a much higher extent must make concessions because the refusal would be deemed 'unreasonable'.

Low absolute values of elasticities seem to capture an essential aspect of the basic intuitions about cost asymmetries quite well. Of course, there is some scope for manipulation. For instance by including dimensions that do not really represent basic values or interests of the patients and donors one may favor particular interests of other individuals involved. But even then the process is not completely arbitrary because certain causal relationships or at least correlations are present. The relative ranking of the several goals is in general not arbitrary either. Some goals may have superior status in particular because they are included in the status quo evaluation others may seem more important or less important according to systematic argument. A large gain along one dimension at a small cost in terms of losses along another dimension must be seen in the light of the relative ranking of the dimensions.

It is obvious that even if the gain dimension is of inferior and the loss dimension of superior importance the gains can overcompensate the losses. In cases in which dimensions are of comparable status trading them off may be avoided and fulfillment of both may conceivably be increased simultaneously at the expense of some small loss along another dimension.

We cannot go over all these details here. Suffices it to note that in the case discussed here superiority and inferiority of dimensions of value has been determined by the historical fact that HLA matching was established as the crucial variable beforehand. In the case at hand elasticities are rather thoroughly based on 'technological relationships' which can be represented by a functional relationship $y = f(x)$ that is continuous and differentiable. Without the possibility of such a functional representation the concept of an elasticity would not be applicable. Moreover, as mentioned before manipulations of the units of measurement cancel out if elasticities are used. So, summing up, we may feel quite safe in assuming that low absolute values of elasticities in constellations as those described before give rise to a decision problem in a well-defined, non-arbitrary way.

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[5] Those who do not assist others in securing their essential interests if this is possible at the expense of a minor sacrifice may be fined under German law; see for an excellent legal discussion Frellesen 1980.

[6] The focus on local transfers is characteristic of the bargaining solutions in Nash 1950 as opposed to solutions based on monotonicity as in Kalai/Smorodinski 1975.

3.4 Preference Construction

In any standard rational choice framework a technological relationship as described in figures 1 and 2 would play a major role. However, in such a framework as opposed to the present one the existence of a well-defined preference order over all conceivable combinations of value would be assumed. It would be superimposed on the set of all combinations of levels of value- satisfaction showing up in the two-dimensional space like the one created by, say, disparities in waiting-time and HLA-(mis-)match. The assumption that a dense-class of well-defined indifference curves over the whole space exists is the hallmark of the traditional approach. However, preferences are made rather than given.

Knowledge about technological relationships plays a crucial role in the construction of preferences. Situations are normally so complex that at best a case—like a case in law—can be construed for some very specific course(s) of action(s). For our present concerns we may note that the technological information that is needed to construe preferences was already presented graphically. Since the problem is one involving several value dimensions a unified preference order among the viable alternatives can only emerge after an effort to determine the relevant trade-offs between separate dimensions of value. These trade-offs between value dimensions are, of course, also related to technologically determined trade-offs as illustrated graphically. For, in order to know the opportunity costs of increasing value along one dimension we need to know what as a matter of fact must be given up along another dimension of value. Only with this information in hand can we hope to construe preferences at least over some pairs of alternatives.

Select preferences are developed in a trial and error process which is driven by the available knowledge. In the case at hand the formation of 'constitutional preferences' in a complicated rule choice must be accomplished. For a stylized description of how such—highly partial—preferences about alternative organ allocation rules might conceivably have developed the following definition is helpful:

> Let γ be a small positive number and δ be much larger than γ. For any pair of such δ, γ a substitution is δ, γ—tolerable if a relative (percentage) increase in the fulfillment of the less important (secondary) goal by more than δ results in a reduction of the relative fulfillment of the more important (primary) goal by less than γ.

Since we focus on cases where x measures the achievement of an inferior goal the reduction in the achievement of the superior end y should be relatively much smaller than δ. For goals of roughly the same importance no such argument about the relative size of γ and δ can be made. But for the case of a superior goal y and an inferior goal x the relevant requirements on δ, γ can be related to elasticities in the following way:

$$\text{Assume} \quad \left|\frac{dy}{y}\right| \leq \gamma \quad \text{and} \quad \left|\frac{dx}{x}\right| \geq \delta$$

then

$$|e_{y,x}(x)| = \left|\frac{dy}{y} / \frac{dx}{x}\right| \leq \frac{\gamma}{\delta}$$

i.e. the dependent variable is treated as being of primary importance while the independent variable is regarded as secondary. The ratio γ, δ expresses an aspiration level that must be met if change is to be deemed desirable. If higher goal achievement expresses itself by an increase in the variable then characteristically $\Delta x \geq 0$ implies $\Delta y \leq 0$. Likewise $dx \geq 0$ will lead to $dy \leq 0$. Using absolute values $|r_{y,x}(x)|$ and $|e_{y,x}(x)|$ the limits within which changes are regarded as δ, γ-tolerable become independent of the sign of Δx or dx.[7]

Since the criterion is framed in terms of elasticities it is also independent of any choice of specific units of measurement. Though human decision-makers are prone to fall into such traps like "money illusion" they are quite able to think in terms of relative changes and compare those with each other. In view of this, empirical findings about γ, δ-tolerable substitutions may have some more general importance. In the case at hand it is particularly instructive to look at what may be seen as the critical value of $e_{y,x}(x)$. This is related to γ and δ or the ratio γ/δ in the preceding expressions. The critical value of $e_{y,x}(x)$ can be assessed for the critical points A, B in figures 1 and 2 respectively after reducing disparities in either waiting time or in organ exchange rates. Either of the two latter serves as independent variable x. Starting from the status quo S that independent variable is improved to the limit beyond which the corresponding relative change of $f(x) = y$ becomes too large to be a γ, δ-tolerable substitution.

Within a bounded rationality perspective consideration of marginal trade-offs as measured by elasticities is inappropriate. If we therefore focus on $r_{y,x}(x)$ rather than on $e_{y,x}(x)$ we can illustrate the preceding considerations by relative changes as measured in discrete rather than continuous alterations of variables. Moving from the status quo, S, in figure 1 to A amounts to a reduction of variance in expected waiting time by δ=44% and an increase of the probability for an HLA-mismatch by γ=8%. Likewise the transition from S in figure 2 reduces national imbalances by δ=79% at the expense of an increase in mismatch probability by γ=16%. In both cases a quite dramatic improvement along another dimension of value is realized at a relatively minor cost along the HLA dimension. An improvement of variable x exceeds δ and is in this sense dramatic while the costs in terms of y are minor in that they do not exceed the relevant threshold γ. It is obvious that we have status quo relatedness—as exemplified by the fact that the previously dominant value dimension is used as the basic reference scale—and effectiveness—as expressed by the requirement that $|r_{y,x}(x)| < \frac{\gamma}{\delta}$ with $\frac{\gamma}{\delta}$ being small. Both, aspects that somehow seem to capture some notion of closeness to the status quo are then used to construe an argument that seems sufficient to show that the status quo should be deemed inferior to the alternatives so construed. Though, of course, this verdict applies only prima facie since

[7] An alternative approach to characterizing tolerable reductions of goal fulfillment is pursued in Ahlert and Kliemt in this volume. Contrary to the present one the alternative approach defines a complete preference relationship over the set of all alternatives as an almost lexicographic ordering with tolerances.

ultimately not only two but several goals may be positively or adversly affected and a more complicated simulation and weighing process may be necessary to 'take everything into account'.

3.5 Decision Emergence

After constructions like those described before ideally all individuals involved have formed their preferences. Let us for the time being assume that this in fact is the case. All individuals concerned then command information about the relevant trade-offs along several dimensions of value as measured from the status quo. Individuals therefore can make up their minds indvidually if certain alterations of the status quo are suggested. But it must be taken into account here that a collective choice of a rule is the issue. Individuals need to reach some kind of collective decision. Sometimes this decision may be derived from a majoritarain vote, other times a super-majority may be needed and sometimes some kind of unanimous (bargaining) consensus.

Recalling the voluntary character of Eurotransplant and the permanent tacit threat of exit or secession that derives from this the motivation to reach some kind of consensus should be fairly strong. Moreover, even though interest group politics seem to be very well developed within the medical profession it is also true that disputes proceed under side constraints that impose some discipline on rent-seeking activities. It is, of course, possible to engage in camouflage and to disguise interests of particular professional groups as the result of pursuing the common weal or patients' interests. Still, there is some 'discipline of argumentative dealings' that participants of disputes about medical issues can hardly avoid. Particular interests will have a hard time if they go too openly against other interests and impose large costs on others for trivial gains for themselves.

The preceding considerations about elasticities and γ, δ-tolerable interventions seem particularly well adapted to the argumentative side of human interaction in decision making bodies like that of Eurotransplant. Consensus is essential; participants of disputes need to concede certain things if results seem too unequitable. Now, whether or not a result is seen to be unequitable depends on both, on the status quo and its features and on what kinds of alternatives are seen to be viable and close by. Sticking to the status quo becomes somewhat indefensible in particular if there is a commonly perceived alternative that could realize a great gain along one dimension of value for a very small sacrifice along another one.

Acceptable boundedly rational choice making in a group may become rather trivial if cost asymmetries become very prominent. Then universal or almost universal consensus should emerge in the construction of the preference order. If, for instance, every individual i has some level of aspirations γ_i and δ_i concerning change then the ratio γ_i/δ_i will differ between individuals. Let $\gamma := \min_i \gamma_i$ and $\delta := \max_i \delta_i$ then unanimous approval should be expected for what we have called γ, δ-tolerable changes. Consensus on the tolerances per se is not necessary for consensual choice making as long as all individual requirements are met. More importantly, choice making as such is reduced to a minor role. The construction

of the preference order does almost the whole job if one can show that—as measured from a status quo, S—dramatic increases along one dimension of value imply only minor decreases along another dimension of value. Who in a decision making body officially pursuing the common weal could for an extended time reject such arguments? One should expect a tendency towards decisions that are in line with notions of fair and equitable compromise between adherents of the status quo and adherents of reform. What may be deemed a fair and equitable compromise will to a large extent be characterized by constructions that make γ, δ-tolerable trade-offs between dimensions of value visible. Preferences that can be publicly expressed will then to a large extent be formed accordingly (see on the related case of preference falsification in public Kuran 1987; 1990).

4. Final Observations

Construing preferences from reasons or arguments as previously described may have the effect that the views of almost all individuals involved shall converge. We think that this is interesting in itself. It brings into play some consensual element before making a decision. The compromise—if there is any—is built into the construction of the constitutional preferences rather than the decision. This is done by the argument of the γ, δ-trade off alone without relying on standard economic and philosophical techniques of creating consensus. In particular concepts like that of an impartial spectator, the veil of ignorance, the veil of uncertainty etc. do not play a role.

In real life we do not decide behind a veil of ignorance and rarely behind a veil of uncertainty nor does the impartial spectator exist as a person. This does not imply, though, that the concept of an impartial spectator might not play a role in ethical or political discourse as a guiding ideal. The desire to pass impartial judgement does play a role in practical discourse about normative issues. The concept of impartiality imposes some side constraints on the types of argument that can be used successfully in public disputes and thereby will enter into the public construction of preferences.

The general public is willing to consider seriously only arguments that are presented in terms of the general interest or of general welfare. The case of organ allocation is no exception to this. Even arguments that seem to be clearly favoring a specific rather than general interest, like referring to national imbalances in organ export and import are put forward in ways that draw on some intuition of fairness or unfairness and thus on impartiality. They appeal to general moral principles of reciprocity or fairness. If imbalances in organ exchange rates between nations exist then clearly the nations that profit most from a change would—and in fact like Belgium did—insist most that a remedy for the ***unfairness*** of such imbalances be found.[8] It is in their specific interest to allude to the general principle of fairness. Nevertheless, their argument is put forward as

[8] Such fairness arguments have nevertheless a certain ring of arbitrariness since the population could be partitioned in countless ways. Some of the partitions may have a basis in 'natural kinds' like blood type or age group that may give rise to issues of imbalance.

an argument about fairness rather than as a directly interest-based argument. And this changes the frame of reference and even the nature of public discourse regardless of the fact that the strategic uses of argument are to some extent driven by selfish motives.

The general public also believes that any claim that things can be changed for the better should be made in a constructive way. More generally speaking it seems to be true that normative arguments seem the more convincing the closer they can be related to the facts of life and in particular to the status quo from which any effort to bring about normatively superior states of affairs must necessarily start. This constraint of discourse has been characterized as status quo relatedness. Though arguments unrelated to the status quo like in utopian thinking have some influence on what we like or do not like in politics, status quo relatedness is crucial in all day to day debates. Arguments that are starting from where we are or what is rather than what might be have a comparative advantage over arguments that cannot link themselves directly to the status quo.

Status quo relatedness could still allow for strategies that from any given status quo always try to cover the whole field of possibilities. According to such a view starting from the real state of affairs—the status quo—all possible states of affairs that could be brought about must be described and then a choice be made from this (localized) full possibility set. Clearly, traditional accounts of rational choice would insist on this. In this respect like in others they seem somewhat far off and almost unrelated to more realistic modes of choice making. For, more realistically, alternatives are construed only in a selective way as alternatives to the status quo. To make a practically convincing argument in favor of some alternative it is sufficient to show that the alternative can be reached from the status quo 'easily' and is superior to it according to some criterion or other. The preceding elementary modeling effort shows how the natural concepts of satisficing behavior could be captured in principle and be related to consensual change. In any event, for a convincing argument in favor of a change it need not be made plausible that a proposed alternative is the best in the full possibility set.

Optimization in the sense of explicitly looking at a full possibility set rarely plays a role in practical affairs. It may be, though, that like in a process of offers and counter offers in bargaining those who are confronted with one alternative to the status quo may come up with another one that they construe and deem superior to the one proposed. It may also be true that this strategy is sometimes used to divert the potential support for some change of the status quo. Construing alternatives that make others uneasy about where to go may be an effective way to make concerted action more difficult. But it may also be a costly method which needs quite some expertise.[9] Vice versa, construing an alternative that somehow naturally focuses the attention of most people in specific ways and on specific problems seems an efficient way to facilitate a change of the status quo. That such focussing of attention becomes possible crucially depends on the availability of information that is convincingly—i.e. in simple and easy to

[9] The role of experts in showing that an alternative is close by to the status quo and can be brought about in γ, δ-tolerable ways is obvious.

grasp ways—presented. Again the dispute about organ allocation procedures of Eurotransplant seems to exemplify all the aforementioned elements in a prototypical way: there is status quo relatedness, the notion of a superior alternative that can be realized at relatively low costs in a normative as well as in a factual sense, and, the very strong constructive element in the creation of preferences on the basis of easily accessible and reliable information.

Clearly our argument is subject to restrictions like the fact that the concept of γ, δ-tolerable changes is tailored to cases where a superior and an inferior competing end are pursued. But there may also be a more general lesson for rational health policies to be learnt here: In the case of Eurotransplant rational policies became viable and broad consensus that they are desirable emerged only because a very rich data base was available. Of course, the specific structure of the data made the argument in favor of reform fairly easy. There were γ, δ-tolerable interventions that could be easily realized from the status quo. But that these possibilities could be recognized and a sound argument be made in favor of them by simulating alternatives to the status quo totally depended on the availability of data. Now it is certainly a kind of common place remark to require better documentation and richer data on the effectiveness of alternative forms of medical treatment. Who would reject this in the abstract? However, the specific case of improving rules of organ allocation seems to suggest that this abstract statement should be taken off the Sunday speeches and influence our day to day routines in medicine to a much greater extent than imagined so far.

Rather than looking for specific regulations that might improve our system of health provision it may be a more successful course of action to focus on ways and means of creating new or better information. We may let doctors choose themselves how to proceed in practical treatment. So no mandatory guide lines on treatment may be required. At the same time we might want to impose very strong requirements of documentation. Doctors may follow all sorts of guidelines which they might invent themselves or derive from the recommendations of some council or other. They should be left alone in these decisions. Yet all who participate in the process of health care provision should be required to contribute to the data set.

Evidence based medicine is a wonderful idea but evidence like preferences is not simply there and waiting to be picked up. It must be created and due to its public goods character should be made available publicly. The central enactment of a rule or rules that force all medical doctors to document their several practices as well as Eurotransplant documented the results of transplantation practices seems warranted. With such a data basis then alternative courses of action could be studied and evaluated. Cost benefit analyses for alternative strategies of medical treatment and alternative allocations of medical resources would become viable to a much larger extent than now.

As opposed to the requirement to create data the quite popular idea that guidelines that capture the state of the art in medicine should be centrally enacted is less charming. A system of competing guidelines may have quite some advantages over centrally fixed guidelines. To provide 'the state of the art treatment' may be just an illusion. For neither the knowledge available nor

the criteria applicable may provide for clear and globally valid answers in such matters. However, provided that the differences between procedures and results are all well documented we might be able to make proposals for local improvements for γ, δ-tolerable changes of one evaluative criterion like—say length of life—in favor of another one—say quality of life. As Eurotransplant seems to show preferences over the adequate forms of treatment may well converge if the information underlying preference formation is sufficiently rich and reliable and allows for persuasive formulations of possible improvements that imply only trade-offs that in principle seem acceptable to almost all.

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