

# Philosophical Reflections on the Impact of Coronary Artery Surgery on Patients' Quality of Life

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*The quality of a patient's remaining life likely to result from alternative therapies is relevant to the choice among those therapies for that patient. A theory of life quality is presented here for making such judgements, based on the life plan of the patient in question. Generalized and individualized factors are distinguished; objective and subjective methods for the assessment of these factors are also distinguished. Practical consequences and suggestions for further studies are seen to emerge from this life-plan approach to the quality of life.*

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**E**veryone will agree that significant enhancement of the quality of a patient's life can sometimes justify the use of one mode of treatment in preference to another. This is true even if there is no reason to believe that the chosen mode is likely to prolong life more than alternative means. The quality of a patient's experience as well as the length of that experience must be evaluated. Unfortunately, reliable ways to measure life quality are notoriously difficult to establish.

Rational estimates of life quality will be more likely if we approach the subject with a coherent theory of what life quality is, or what it means. My objec-

tive in this article is to propose such a theory. Philosophical reflections cannot answer empirical questions; mere thinking cannot predict the result of a particular therapy. But in passing judgment on results and in putting empirical findings to work, a philosophical theory of life quality can be very useful. Indeed, as I will argue, such a theory may help even in suggesting possible lines of investigation for the appraisal of alternative modes of cardiovascular care.

Two very different kinds of medical circumstances raise difficult questions about quality of life. One of these concerns the ending of life—of a hopelessly ill and seriously impaired individual approaching death, for example, or the abortion of prenatal life. In such circumstances, if the quality of the patient's remaining life is believed to be very low, some believe and some deny that this expected quality is relevant to the decision facing physicians and families of whether to treat. The second circumstance involves the choice that must be made among alternative treatments, where quality of life has become relevant in making that choice. Whether coronary artery bypass surgery is the appropriate treatment for a given patient depends on its total predicted impact on that patient. It is this context, that of weighing treatment options, to which the following remarks are chiefly directed.

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In choosing one mode of therapy over another, we ask what kinds of life improvement (beyond those of biologic function) are properly invoked, and how much improvement and of what kind justifies treatment.

## A THEORY OF LIFE QUALITY

We can measure improvement only if we begin with some notion of what the good things are that we would like magnified. There are obviously an unlimited variety of good things, and they are very different for different persons. Seeking some way to make interpersonal comparisons, we naturally ask which goods, if any, are *universal*, i.e., things that improve the life of everyone. Aristotle,<sup>1</sup> St. Thomas Aquinas,<sup>2</sup> Kant,<sup>3</sup> and Dewey<sup>4</sup> are among the great philosophers who have tussled with this question. No answer has been agreed upon.

Substantial accord among the general public and among moral theorists is to be found, however, on what tends to be good for all humans. Being free of external interference in action, having a sense of one's own integrity and worth, and enjoying satisfactory organic functions are good characteristics described in a very general way that are not much in dispute. Each individual will add to the list or adjust its rankings. But creating a list of good things does not provide a theory of life quality; we need a principle behind the list. Without some principle we cannot know whether a proposed list of good things contains all the items necessary, most of them, or only those that should count; without a principle we cannot know how to order the items on the list. It is not hard to say that, for example, both x and y are generally good things; when the achievement of x and y conflict in the treatment options facing a given patient, we need some principle to reconcile that conflict. We need a general theory of life quality.

We go astray by first focusing attention on the good things themselves rather than on the individuals whose lives are in question. We need to inquire first into the life of the particular patient. As a theoretical base, let us think of a person as a life lived with some degree of coherence. What gives unity to a person's experience is the *plan* of that person's life. For most people the plan is not well formulated and is in some degree jumbled.

Yet each one of us has goals and purposes that distinguish us from others; the set of related purposes that is unique to us makes each of us special and irreplaceable. Suppose one is asked to say or write down *who* he or she is. This would be answered, on reflection, by identifying several roles in life, e.g., family role, professional role, religious role. The causes with which one identifies and the principles that one defends would also be reflected on. One gives an account of one's self by telling what one did, is doing, or intends to do with his or her life. In summary, a human being is a life lived according to a human plan.

The principles and goals of different individuals

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differ vastly. Anyone may pass judgment on the life plan of another, finding it worthy or frivolous, rational or irrational. The physician, in making decisions about the care of patients, need pass no judgments on their life plans. Let them be what they will. What is sought is the course of treatment, medical or surgical, most likely to improve the patient's quality of life; that search should begin with an inquiry into the plan of that particular life, given to it (explicitly or implicitly) by the one who is living it. Only when we know his or her plan (not its detail but its general character) can we begin to determine what empirical features of organic function are most critical to that patient's effort to fulfill it.

## GENERALIZED AND INDIVIDUALIZED FACTORS

The theory underlying this approach is abstract, to be sure, but its consequences are concrete. Any theoretical account of a general idea—especially one so general as quality of life—must be abstract. It must abstract from, that is, pull out of many particular lives the underlying patterns of importance. The life-plan approach proposed here does just that. It will be useful in helping make sense of our specific judgments about quality of life. It enables us to distinguish the *generalized* from the in-

*individualized* factors determining that quality.

The generalized features affecting life quality are widely understood. Some factors are almost universally considered good, others almost universally considered evil. Good factors, such as intelligence, mobility, and physical stamina, invariably contribute to the realization of human plans, whatever the plans may be. Evidence that an individual's life plan is advancing may take many forms: ability to pursue a vocation, to practice an art, to engage in a hobby, or to enjoy a special pleasure. Similarly, there are qualities of experience that hinder or block the pursuit of almost every person's life plan: confinement to bed or to an institution, mental instability, fear, or intense or chronic pain. The generality with which such factors, positive or negative, influence life plans prompt investigators, very reasonably, to seek to learn how these factors correlate with particular treatment patterns, surgical or nonsurgical.<sup>5</sup>

This life-plan approach helps explain the agreement among physicians and the public about many good and bad factors. Length of life is critical, but also important are those aspects of life experience that fulfill us or frustrate us in implementing our plan. It is not surprising that a useful theory of life quality yields results consistent with our more fragmented, intuitive conclusions. Philosophical reflection may not tell us what we ought to find

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good, but it should at least explain why some things are so generally found good, for ourselves and for others.

Hence the appropriateness of actual studies often made regarding the consequences of coronary artery surgery. Did such surgery enable the patient to return to work? Is the patient subsequently free, or freer, from pain? Is there more general pleasure and less anxiety and depression in the patient's life? After surgery, does the patient experience a more satisfying sex life?

Questions like these are precisely what the theory proposed here might suggest we ask. Also suggested are inquiries on the negative side. For ex-

ample, what are the consequences in terms of length of hospitalization, severe discomfort, or fright? These, we know, are commonly the marks of greater hindrance to the pursuit of life plans of every sort. The evaluation of coronary artery bypass surgery should look to those features that generally tend to maximize plan realization, or conversely, to interfere with plan realization.

Because life plans vary so greatly, alternative therapies have different effects on the life quality of patients. Some things are prized by all of us; some things are prized by only some or prized by some in a very special degree. Hence there are, in addition to those general features noted, elements of *individualized* impact to be weighed. These are more difficult to address because of their variety. I approach them here by first attending to another important distinction between *individuality* and *subjectivity*.

### **OBJECTIVE AND SUBJECTIVE ASSESSMENT**

Two different distinctions have to be kept in mind. The first is the distinction between generalized and individualized needs. Some things are important to virtually all life plans, and some are only essential for some life plans. The second distinction exists between the ways in which any need (whether general or individual) is assessed; some assessments can be largely objective, whereas others unavoidably entail a substantial degree of subjectivity. The objective/subjective distinction presents some puzzling problems, but they are different from the problems of distinguishing the generalized from the individualized need. These two distinctions cut across one another.

The following illustration using a hypothetical case is useful. Suppose I am a heart patient whose plan of life very prominently incorporates being able to ski. For me, skiing is not just a recreation but the chief way I seek harmony with the natural environment. Some ski as vacation; I ski as personal fulfillment. Because skiing is the source of one of my deepest satisfactions I will undertake risks or sacrifices to maintain that capacity, which another person in my condition might correctly think to be irrational for them. What is crucial for the pursuit of my goals and the quality of my life is different from what is crucial for the pursuit of another's pur-

poses and quality of life. The special need for this capacity is, in my case, an individualized matter.

In the hypothetical case just presented, whether a given treatment, medical or surgical, is likely to



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result in being physically able to ski is largely an objective matter. Yet that ability is largely influenced by factors that are highly subjective. Fear, for example, is one such factor. However much we seek to objectify our estimate of the rationality of fear, the inner sense of fear will retain ineradicably subjective elements.

The generalized-individualized distinction applies to the special place in my life plan for the capacity to ski; the objective-subjective distinction applies to the different kinds of considerations that should be taken into account in assessing that capacity. There is interplay, of course, between individualized needs and subjective assessments. But awareness of the difference between the individualized and the subjective needs makes us able to forecast and measure the impact of surgery or some alternative therapy on quality of life. Our control of feelings, moods, fears, and pains is limited and uncertain; therefore, some improvements in life quality that depend on these subjective factors are exceedingly difficult to predict. Other improvements on the quality of life, even if they flow from highly individualized needs, may nevertheless be predicted with confidence and reliably measured.

One factor, pain, is particularly problematic, because the foundations of its measurement are so inescapably subjective. The fact that a report of a sensation is subjective does not trivialize that sensation, nor does it eliminate the significance of the report. The well being of the patient is the physician's concern. If the patient feels pain and feels it in a way that does in fact interfere with his pursuit of his life plan, the quality of his life is then damaged to that extent. The subjectivity of the feeling does not cancel—indeed it emphasizes—the unhappiness of the report.

Research scientists are naturally inclined to focus

on those factors indicative of life quality that can be objectively measured. After heart surgery, what percentage of patients return to full-time work, to their normal recreational pursuits, or to their normal sexual habits? Reports on such matters may to some degree be inaccurate, but these questions can be answered objectively. The targets are quantities that can be determined, in principle if not in fact, by independent observers recording activities and counting frequencies of events. The interpersonal verifiability makes it trustworthy evidence. It is not surprising, therefore, that such factors, general and objective, tend to be chosen as the indexes of life quality.

### **OBJECTIVITY AND SUBJECTIVITY IN PAIN**

The unique circumstances of any particular patient complicate this process in two ways, indicated by the two distinctions discussed previously. Rather than assessing general needs, we should first consider the individualized needs of the patient as, e.g., a skier, salesman, or author. What is of little consequence to most may prove to be of monumental consequence to some; the particular life-plan of the patient must be kept in view. On a deeper level, the truly subjective variations complicate matters further and nowhere more critically than with respect to feelings of pain.

Here we enter strange territory. The strangeness is due in part to the relative inaccessibility of the physiologic mechanism of pain, namely, the biochemical changes, the functions of receptors, the afferent neural paths, and the central processing system of the organism. Yet, at least in principle, we can explore these domains. Beyond these there remains for each pain-ridden patient a personal reaction to the pain sensation. There appears to be a two-phase process in the experience of pain, the first physiologic and the second irreducibly subjective.

That the patient's reaction is subjective does not mean that it cannot be deliberately modified by conscious acts of the patient himself or by those who treat him or her. Factors that can modify subjective responses are under continuing study, and much is being learned about them. We can devise objective instruments whose function it is to change subjective responses. We can reach the subject of pain through concept and through affect and

thereby (sometimes) bring about changes in the patient's responses to physiologic changes.

The circumstances of a patient undergoing coronary artery surgery are illuminated by the following illustration of the remarkable subjectivity of pain taken from another sphere. Badly wounded soldiers upon removal from battle to the safety of the hospital are often euphoric. By all reasonably objective measures, such as the frequency of use of pain medication, they feel much less pain than surgical patients with fully equivalent wounds. Like the soldier, the bypass-graft recipient correctly believes that he or she is in a life-threatening situation. Although this may be an exaggeration in the patient's mind, the patient thinks he or she may die. Upon leaving the intensive care setting, they learn, with exhilarating relief, that they are not near death and are likely to be assured that all will now be well. It is understandable that when the patients think about their chest pain and how it feels, a significant change takes place that can substantially improve the quality of their lives.

## **PRACTICAL APPLICATIONS OF THE LIFE-PLAN APPROACH**

Can such consequences of objective circumstances on subjective responses be used constructively in cardiovascular care? I think they can. Our understanding of the connections between subjective response and objective conditions is only partial. Using the analyses discussed previously, however, I have drawn four conclusions.

### **Placebo Effect**

1. Caution is necessary in weighing what is commonly called the placebo effect of surgery. Suppose (for the sake of argument) we undertake genuinely randomized, prospective clinical trials for coronary artery bypass grafts, using subsets of candidates for whom prolongation of life expectancy cannot be shown. Suppose that some patients are randomized to surgical treatment and others to nonsurgical medical treatment; further suppose that upon those randomized to surgical treatment there appears to be a significant placebo effect whose durability and degree are at issue. This is clearly a subjective aspect of the procedure and its outcome. We should be cautious, I submit, to avoid the tendency to belittle this contribution to the pa-

tient's perceived well-being, only because we know it to be subjective.

Whatever substantially alters a patient's judgments, memories, and discriminations in feeling pain does just that and no less. If surgical treatment has these effects and has them to a degree

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that is substantially life enhancing, there is no less reality in that enhancement (if it is sustained) than there is in the reality of enhancement resulting from physiological changes that alter the biochemical sources of the pain.

We have learned that the uneliminable subjective elements in pain play an increasingly important role when circumstances of great stress and anxiety are followed by instant release.<sup>7</sup> Cardiac surgery, with its highly charged psychologic and material accompaniments, creates precisely such a chain of events: anxiety, stress, danger, and then release. We may therefore expect a positive impact of coronary artery surgery on the subjective feelings of pain and fear. The contribution of that impact to the quality of that patient's life should not be underestimated. All the factors that cause specific therapies to have the results they do deserve consideration. A result is no less real because it is subjective.

### **Patterns of Patient Responses**

2. Individual patients vary greatly in the degree and manner of their subjective reactions to pain. The objective correlates of these variations would be useful knowledge in screening candidates for coronary artery surgery. Some subsets of candidates—categorized according to employment, sex, personality profile, or other objectively describable patterns—statistically, may have better results than other candidates. We ought to capitalize on our recognition of the *patterns* of subjectivity in response, choosing (when objective indications allow) the mode of treatment best calculated to take the greatest advantage of subjective proclivities.

### Control of Subjectivity

3. Suppose the subjective state of the patient is (at least in some cases) a major cause of the beneficial impact of surgery on that patient's life quality. Ought we not then speculate on the ways in which that same subjective alteration can be achieved without the risks and costs of surgery? Sham operations of the sort undertaken to test internal mammary artery ligation<sup>8,9</sup> are not appropriate. Deliberate deception would be difficult to justify and easy to abuse. I speculate instead about the possibility of a course of treatment that seeks to manipulate subjective reactions but does so with the knowledge, active participation, and enthusiastic support of the patient and his or her family. Such treatment (if indeed there is any) would require emotionally laden commitments by all concerned. It would have to mirror or in some way reproduce the process of experiencing anxiety, stress, and sharp release that can have so profound an impact in the surgical context, even when objective physiologic improvements remain in doubt.

For many patients such efforts would prove fruitless. Yet it is possible that for others, by devising ways to deliberately trigger subjective powers, the costs and dangers of coronary artery bypass surgery could be decreased while some of its benefits are retained. If there are such alternatives—and possibly there are none—they may be able to enhance the life quality of patients who, for other reasons, are not ideal candidates for surgery. All this is speculative, but the impact and the uses of the drama of surgery on the subjective experience of the patient should be weighed. Learning more about that causal relation may point the way to other instruments with which life-quality assessments can be improved.

### A More Reliable Assessment of Life-Quality Impact

4. Another line of inquiry is suggested by the distinction between the generalized marks of plan fulfillment and the needs imposed by the individualized life plans of candidates for coronary artery bypass surgery. Studies to determine the impact of this surgery on the quality of life commonly measure the frequency of certain kinds of events (e.g., return to work) used as indexes of the patients' capacities. Such inquiries generally make good sense, but they can mislead. Return to work,

for example, may be more a function of the patient's personality or need for income than it is of the actual impact of the surgery on the state of health. If the financial circumstances of the patient permit full or partial retirement, the quality of life might be enhanced most by *not* returning to work. How can we take account of such individualized variations in postoperative surveys?

I suggest that we learn from patients, before hospitalization, what specific changes in work or play they anticipate from coronary artery bypass surgery. Let us determine, by identifying their unique hopes and private goals, what their individualized life plans are. Postoperative studies may then address the accomplishments or failures of surgery *in terms set by the patients themselves*. To what extent have their particular goals been realized? The physical capacities generally associated with life enhancement will of course remain important, but by making our knowledge of the impact of coronary artery bypass surgery upon actual, individualized life plans more specific and precise, we will acquire a deeper understanding of the role of this surgery in improving the quality of life.

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