



CASUISTRY AND CLINICAL DECISION MAKING. A CRITICAL ASSESSMENT

LA CASUISTIQUE ET LA PRISE DE DÉCISION CLINIQUE. UNE ÉVALUATION CRITIQUE

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ABSTRACT

Casuistry depends on the basic assumption that the casuist method is the ideal way of decision making in medical ethics because of its structural similarity to clinical practice. Our close examination of the basic assumption shows that it overemphasizes the role of building analogies between cases for clinical decision making and that it is incongruent with the contemporary understanding of clinical practice. Therefore, the basic assumption has to be refuted both as a description of clinical practice and as an argument in favor of the casuist method.

KEYWORDS

Bioethics, Casuistry, Clinical decision making, Clinical reasoning, Evidence-based medicine.

RÉSUMÉ

La casuistique dépend de l'hypothèse de base selon laquelle la méthode casuiste est la méthode idéale pour la prise de décision en éthique médicale, à cause de sa similitude structurelle avec la pratique clinique. En regardant cette hypothèse de base de plus près nous constatons qu'elle insiste trop sur le rôle de la construction d'analogies entre des cas pour la prise de décision clinique et qu'elle est incompatible avec la vision contemporaine de la pratique clinique. Par conséquent, il faut réfuter cette hypothèse de base comme description d'une pratique clinique ainsi que comme argument pour la méthode casuiste.

MOTS-CLÉS

Bioéthique, Casuistique, Prise de décision clinique, Raisonnement clinique, Médecine basée sur des preuves.

I. INTRODUCTION

Proponents of casuistry develop their approach to medical ethics on a basic assumption.⁽¹⁾ They state that when it comes to decision making, there is a structural similarity between the casuist interpretation of ethics and clinical medicine. In both fields, bridging the gap between theory and practice is the major issue and the aim is a practical one. Medical as well as ethical theory consists of general principles and abstract rules whereas the case at hand requires a decision that is suited to the specific circumstances. Thus, whenever the case at hand differs from the standard textbook example, decision making cannot simply mean the application of abstract

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(1) Brody BA. Life and death decision making. Oxford *et al.*, 1988; Jonsen AR, Toulmin S. The abuse of casuistry. A history of moral reasoning. Berkeley *et al.* 1988; Paulo N. Casuistry as common law morality. *Theor Med Bioeth.* 2015; 36: 373–389; Strong C. Justification in ethics. In Brody B (ed.). *Moral theory and moral judgments in medical ethics.* Dordrecht 1988: 193–211; Strong C. Specified principlism: what is it, and does it really resolve cases better than casuistry? *J Med Philos.* 2000; 25(3): 323–341; Tonelli MR. Integrating evidence into clinical practice: an alternative to evidence-based approaches. *J Eval Clin Pract.* 2006; 12(3): 248–256; Tonelli, M. R. Advancing a casuistic model of clinical decision making: A response to commentators. *J Eval Clin Pract.* 2007; 13(4): 504–507.





principles, rules or theories. Neither in medicine nor in ethics a decision can be based on a mechanistic deduction from general rules. Although biomedical science is an important factor for making decisions in medical practice, clinicians also draw on their clinical experience. Similar to the casuist methodology, clinical decisions are based on building analogies between the case at hand and paradigmatic cases.

Casuistry can be seen as an opposition against the concept of applied ethics in medicine. Following the casuists, the very term “applied ethics” implies that there is a certain set of ethical theories and principles that have to be transferred to medical practice. When it comes to decision making, the clinician or the ethicist simply has to deduct from these theories and principles in a top-down manner. According to casuists like Albert R. Jonsen and Stephen Toulmin, John D. Arras or Carson Strong, this understanding of ethics in medicine leads to an overly theoretical approach inapt for clinical practice. Casuistry is construed as an alternative to theory-loaded approaches and fundamentally focuses on the concrete case at hand. Even principlism, which refrains largely from theoretical speculation, is rejected by the proponents of casuistry due to the top-down model of ethics it implies. From a casuist point of view, there is no prefixed set of rules that could be applied to every possible case. Casuistry is a bottom-up approach which concentrates on a single case and aims for the right decision. The starting point is a specific problem, an ethical dilemma or an ambiguity. The aim is to reach a judgment about what to do in the concrete case. Not only supporters of casuistry, but other commentators as well have repeatedly pointed out that the main advantage of the casuistic method lies in its independence from ethical theory. Following this view, the practice-oriented and case-based approach makes casuistry attractive to medical ethics.

Although the casuists use this basic assumption to advocate casuistry as the *via regia* to medical ethics, there are surprisingly few contributions that put the basic assumption to the test.⁽²⁾ In her analysis of casuistry, Braunack-Meyer examines the assertion that applied moral reasoning as such is casuistic.⁽³⁾ She concludes that although there are some casuistic elements in applied moral reasoning, the role of casuistry is overemphasized by its proponents.

The present paper however does not discuss the alleged parallels between casuistry and applied moral reasoning

as such. The topic is the basic assumption which consists of two propositions: 1. The structural similarity to clinical decision making makes an ethical approach adequate to medical practice. 2. Casuistry fulfills this criterion due to its method. In order to examine the basic assumption, it will be necessary to analyze the casuist methodology as well as the alleged parallels between casuistry and clinical practice in medicine.

II. THE METHODOLOGY OF CASUISTRY

As we have seen, casuistry is not to be understood as a coherent moral theory. When we use the term casuistry, we refer to a set of various methods of decision making in medical ethics. Although the Jonsen/Toulmin-approach⁽⁴⁾ differs from Brody's guided judgment-based moral pluralism⁽⁵⁾ or Strong's single paradigm comparison,⁽⁶⁾ all casuist approaches rest on three methodological steps: 1. A meticulous description of the circumstances present in the case at hand. 2. Finding a paradigmatic case that represents the moral issue in its most simple form. 3. Building analogies between the case at hand and the paradigmatic case in order to form a judgment.⁽⁷⁾ We will discuss these steps only insofar as it fits the purpose of this paper. More detailed critical analyses of the methodology have been done elsewhere.⁽⁸⁾

A. Describing the Circumstances

As a case-based approach, casuistry naturally emphasizes the specific circumstances of the case at hand. Collecting as much information as possible is crucial to get the whole picture and to identify the moral issue. Jonsen⁽⁹⁾

(2) Tomlinson T. *Methods in medical ethics. Critical perspectives*. Oxford et al., 2012.

(3) Braunack-Mayer A. Casuistry as bioethical method: an empirical perspective. *Soc Sci Med*. 2001; 53(1): 71–81.

(4) Jonsen AR, Toulmin S. *The abuse of casuistry. A history of moral reasoning*. Berkeley et al., 1988.

(5) Brody BA. Pluralistic moral theory. In: Brody BA. *Taking issue. Pluralism and casuistry in bioethics*. Washington D.C. 2003: 31–44.

(6) Strong C. Specified principlism: what is it, and does it really resolve cases better than casuistry? *J Med Philos*. 2000; 25(3): 323–341.

(7) It has to be noted that Brody's model differs slightly from the orthodox methodology of casuistry. Following Brody, analogies are not built directly between cases but in form of generalizations that are derived from initial cases. Nevertheless, building analogies is the crucial step to form a judgment in the case at hand; Brody BA. *Pluralistic moral theory* (1995). In: Brody BA. *Taking issue. Pluralism and casuistry in bioethics*. Washington D.C. 2003: 31–44.

(8) Braunack-Mayer A. Casuistry as bioethical method: an empirical perspective. *Soc Sci Med*. 2001; 53(1): 71–81.

(9) Jonsen AR. Casuistry as methodology in clinical ethics. *Theor Med*. 1991; 12(4): 295–307.

calls this step morphology because it discloses the structure and moral implications of the case. The circumstances in question contain the key facts of the case, including the spatial and temporal setting, information on the people involved and their actions as well as the medical indication.⁽¹⁰⁾ Furthermore, rules of conduct, ethical principles, virtues, rights and duties count as circumstances.⁽¹¹⁾ For example, if assisted dying is the issue, the accountability of the patient, the severity of the illness as well as the legal background, but also the principal of autonomy or maxims like “thou shalt not kill” will be relevant circumstances. That means that although casuistry opposes the deductive method of principle-based- or theory-based approaches, it nevertheless acknowledges the relevance of principles and rules. They count as relevant factors and are understood as circumstances of the case which have to be taken into consideration. However, principles or rules do not play as important a role as they do in other approaches and are not seen as dominant, let alone sufficient factors for ethical decision-making by the casuists.

B. Finding a paradigm case

After the relevant information has been collected and the topic or moral issue has been identified, the case at hand has to be compared to cases featuring similar circumstances and topics. The aim of this process, termed taxonomy by Jonsen,⁽¹²⁾ is to find a case which embodies the topic in its purest form. The paradigm case⁽¹³⁾ or initial case⁽¹⁴⁾ is defined by being simple in structure and uncontroversial.⁽¹⁵⁾ Let's assume that we have chosen the maxim “thou shalt not kill” as being quintessential to the case of assisted dying. Then we would have to look for a paradigm case fitting this maxim, a case which deals with killing in the most simple and uncontroversial form. This could be the unprovoked killing of an innocent person. This case does not pose an ethical problem because killing the innocent without a reason is morally

wrong by any standard. No elaborate ethical theory is needed for that conclusion. The judgment in this case is clear and uncontested and can therefore become a paradigm for similar cases.⁽¹⁶⁾

C. Building analogies

In order to form a judgment, analogies have to be built between the case at hand and the paradigm case, which implies an analysis of the parallels between both cases.⁽¹⁷⁾ The underlying assertion is that when two cases are analogous in the said respects, it seems likely that the same judgment may be applied to both of them. The decision making rests on the analogy to the paradigm case alone without referring to any theoretical framework. In the casuist understanding, every kind of theoretical argumentation is defined by logical consistency and a deductive structure. Its main criterion is formal validity. A practice-oriented argumentation on the other hand is substantial, meaning that it is based on experience-approved strategies of problem solving. The *modus operandi* of this kind of argumentation is *phronēsis* or practical wisdom.⁽¹⁸⁾ The casuists refer to this Aristotelian concept as a counterpart to the deductive inferring from ethical principles or theories. Hence casuistry and ethics as such is to be understood as an „art“⁽¹⁹⁾ or „practical art“⁽²⁰⁾, rather than a science or „moral geometry“.⁽²¹⁾

The methodological approach of the casuists is best illustrated in Jonsen's painting analogy.⁽²²⁾ The case at hand can be compared to a painting whereby the circumstances form the foreground and the midground is constituted by maxims and principles. The social, moral, and legal framework can be seen as the background. Whereas the background is of certain importance, the

(10) Jonsen AR. Strong on specification. *J Med Phil.* 2000; 25(3): 348–360.

(11) Strong C. Critiques of casuistry and why they are mistaken. *Theor Med Bioeth.* 1999; 20(5): 395–411.

(12) Jonsen AR. Casuistry as methodology in clinical ethics. *Theor Med.* 1991; 12(4): 295–307.

(13) Jonsen AR, Toulmin S. *The abuse of casuistry. A history of moral reasoning.* Berkeley et al., 1988.

(14) Brody BA. Pluralistic moral theory (1995). In: Brody BA. *Taking issue. Pluralism and casuistry in bioethics.* Washington D.C. 2003: 31–44.

(15) Strong C. Specified principlism: what is it, and does it really resolve cases better than casuistry? *J Med Philos.* 2000; 25(3): 323–341.

(16) Jonsen AR. Casuistical reasoning in medical ethics. In: Düwell M, Neumann JN (eds.). *Wieviel Ethik verträgt die Medizin?* Paderborn 2005: 147–164.

(17) Strong C. Specified principlism: what is it, and does it really resolve cases better than casuistry? *J Med Philos.* 2000; 25(3): 323–341.

(18) Jonsen AR, Toulmin S. *The abuse of casuistry. A history of moral reasoning.* Berkeley et al., 1988.

(19) Jonsen AR, Toulmin S. *The abuse of casuistry. A history of moral reasoning.* Berkeley et al., 1988, p. 13.

(20) Jonsen AR, Toulmin S. *The abuse of casuistry. A history of moral reasoning.* Berkeley et al., 1988, p.15.

(21) Jonsen AR, Toulmin S. *The abuse of casuistry. A history of moral reasoning.* Berkeley et al., 1988, p. 19.

(22) Jonsen AR. Casuistical reasoning in medical ethics. In: Düwell M, Neumann JN (eds.). *Wieviel Ethik verträgt die Medizin?* Paderborn 2005: 147–164.



crucial factor for ethical decision making according to casuistry is the interaction between the circumstances (foreground) and the maxims or principles (midground). Maxims and principles are to be considered as guidelines that have to be adjusted to the specific circumstances of a particular situation.

III. THE BASIC ASSUMPTION AND CLINICAL MEDICINE

It is the crucial claim of the basic assumption that the casuist method mirrors medical practice in the sense that it deals with decision making in particular cases. The casuists claim that taxonomy is the core element of clinical practice and clinical education.⁽²³⁾ In their view, it is crucial for clinicians to learn how to recognize and classify symptoms. In the diagnostic process, clinicians collect as many data as possible about the patient, his or her present symptoms, medical history, psychological condition and social background. Based on this information, clinicians have to find analogous cases in order to place the case at hand.⁽²⁴⁾ Following the casuist interpretation, medical practice goes beyond the mere application of biomedical knowledge. It depends on clinical experience which allows for comparing cases and “arguing from analogy”.⁽²⁵⁾ The similarities to the casuist concept of taxonomy are obvious.

Several authors have backed this casuist view. They approve of the structural similarity between clinical practice and the casuist model, even defining medical practice as “clinical casuistry”.⁽²⁶⁾ Due to the variety of physiological dispositions among patients, clinicians cannot simply deduce from their biomedical knowledge to make a clinical decision. In a clinical setting, theoretical knowledge does not offer universal solutions, but rules of thumb which have to be interpreted in the light of the case at hand. Theoretical knowledge and practical experience have to be synthesized. This requirement is reflected in medical education which consists of scientific as well as clinical elements.

(23) Tonelli MR. Integrating evidence into clinical practice: an alternative to evidence-based approaches. *J Eval Clin Pract.* 2006; 12(3): 248–256.

(24) Jonsen AR, Toulmin S. The abuse of casuistry. A history of moral reasoning. Berkeley *et al.*, 1988.

(25) Jonsen AR, Toulmin S. The abuse of casuistry. A history of moral reasoning. Berkeley *et al.*, 1988, p. 41.

(26) Montgomery Hunter, Kathryn: “A Science of Individuals. Medicine and Casuistry”, in: *The Journal of Medicine and Philosophy* 14 (1989), 193–212, p. 194.

There have also been critical comments concerning this interpretation of clinical practice. By focusing on taxonomy and analogies, casuistry overemphasizes diagnostics and thus neglects the therapeutic decision.⁽²⁷⁾ When it comes to clinical decision making, building analogies to paradigmatic cases is less important than weighing alternative therapeutic methods. Advantages and risks of a certain therapy have to be evaluated in order to form a judgment. Furthermore, the casuist interpretation of *phronēsis* as the instrument of clinical decision making is misdirected and characterizes neither the Aristotelian concept nor clinical medicine correctly.⁽²⁸⁾ When analyzed closely, the casuists interpret medical practice as a primarily diagnostic enterprise without recognizing the importance of the therapeutic judgment.

So does the method of casuistry really mirror clinical practice as the second proposition of the basic assumption claims? In order to evaluate this question, it is necessary to examine clinical practice itself. That means that we have to look closely at how clinical reasoning as well as decision making work. We identify two major components of clinical practice: Firstly, the process of clinical reasoning and decision-making as its crucial activity, secondly evidence-based medicine (EBM) as its framework.

A. Casuistry and the process of clinical reasoning and decision-making

How clinicians actually proceed when analyzing a case has been a major topic of research for decades. Typically, two types of explanations are given:⁽²⁹⁾ Following the intuitive approach, clinical reasoning is experience-based and works mainly through pattern recognition. That means that when a clinician is presented with a case, he or she builds analogies between the given phenomenon and a learned or otherwise memorized pattern. Following this mode of “exemplar-based thinking” or “case-based reasoning”,⁽³⁰⁾ the present case is compared to similar cases. Insofar, this case-based approach confirms the casuists’ understanding of clinical reasoning. But there is also the analytical approach which interprets clinical reasoning as a hypothetico-deductive process which starts

(27) Braunack-Mayer A. Casuistry as bioethical method: an empirical perspective. *Soc Sci Med.* 2001; 53(1): 71–81.

(28) Waring D. Why the practice of medicine is not a phronetic activity. *Theor Med Bioeth.* 2000; 21(2): 139–151.

(29) Croskerry P. A Universal Model of Diagnostic Reasoning. *Acad Med.* 2009; 84: 1022–1028.

(30) Patel VL, Arocha JF, Zhang J. Thinking and Reasoning in Medicine. In: Holyoak K. (ed.). *Cambridge Handbook of Thinking and Reasoning.* Cambridge (UK) 2005: 727–750, p. 733.

with a hypothesis and conducts logical operations in order to test this hypothesis in the light of the empirical data available.⁽³¹⁾ Whereas the case-based interpretation rests on intuition and the practitioner's experience, the hypothetico-deductive interpretation understands clinical reasoning as analytical and data-driven. Both explanatory models originate from psychology where they are used to explain the cognitive aspects of the decision-making process. Usually, both models are combined in the dual-process theory,⁽³²⁾ which is also applied to clinical reasoning.⁽³³⁾ According to this theory, clinicians use two different systems of reasoning to deal with a case, depending on its complexity and specific structure. System 1 equals the intuitive approach: When a clinician is presented with a certain set of symptoms, he or she builds an analogy to past cases using pattern recognition. This system of reasoning is highly effective because little information and little time are needed to come to a conclusion. But System 1 only works under certain circumstances. The manifest symptoms have to be clear, distinct and typical. In other words, whether System 1 is effective, depends strongly on the pathognomonicity of the disease to be diagnosed. Also, System 1 is influenced by characteristics of the present clinical situation, like the timeframe, priority issues or the workload of the clinician. Furthermore, the fact that System 1 is highly context-bound makes it susceptible to bias-based errors. When the patient presents with symptoms that are unclear or ambiguous and no direct pattern recognition is possible, System 1 fails. As an example, a global headache may indicate various causes, from muscle tension to migraine. It is not possible to determine the cause through pattern recognition alone because the possibilities are too manifold. In these situations of uncertainty, System 2 is engaged which equals the hypothetico-deductive approach. Due to its systematic and analytical examination, System 2 is more suitable to deal with atypical cases. When confronted with symptoms that are not easily recognizable, clinicians actively search for further information and collect more data (e.g. from labwork). Instead of intuitive pattern recognition, the deliberate logical analysis of the data is applied and hypotheses are established and tested. This process is time-consuming and uses more resources

than System 1. It follows rules which are acquired in medical training and thus can be seen as a more scientific approach. In conclusion, the dual process model suggests that there are two methods of processing in clinical reasoning, the case-based, intuitive System 1 that mainly works through pattern recognition and the rule-based, analytical System 2 which is characterized by the systematic analysis of data. Whether System 1 or System 2 is applied, depends on the complexity and ambiguity of the case at hand.

Against the backdrop of the dual process-model, casuistry seems to explain only one half of the clinical reasoning process. Since casuistry draws heavily on intuitive, experience-based reasoning and pattern recognition instead of analytical reasoning, it can be identified with System 1. It is important to note that casuists see the ability of making decisions under uncertainty as a main advantage of casuistry. According to this view, casuistic decision-making is fruitful in ambiguous situations where the mere application of theories, rules or principles fails. The dual process-model on the other hand interprets clinical decision-making the other way round. Intuitive, case-based reasoning is only appropriate in clear and unambiguous cases. Atypical and uncertain cases demand for an analytical and rule-based approach. That means that unlike the second proposition of the basic assumption suggests, casuistry contradicts the most influential understanding of clinical reasoning.

One could argue that by focusing on the dual process model, we make the same mistake as the casuists, i.e. interpreting clinical practice mainly in diagnostic terms. As we have seen, this was the major critique put forward by Tomlinson.⁽³⁴⁾ When we look at decision-making itself, meaning deciding which therapeutic path to follow, we can identify a dominant view also in this respect. Since the 1990s, shared decision-making (SDM) has been discussed as a new paradigm in the patient-doctor-relationship. In the Salzburg statement on shared decision making, including patients in the decision making process is considered as an ethical imperative for clinicians.⁽³⁵⁾ In order to make a sound clinical decision, clinicians have to take the patient's values and preferences into consideration.⁽³⁶⁾ Following the casuist model, there seems to be little place for SDM.

(31) Patel VL, Arocha JF, Zhang J. Thinking and Reasoning in Medicine. In: Holyoak K. (ed.). *Cambridge Handbook of Thinking and Reasoning*. Cambridge (UK) 2005: 727–750.

(32) Evans JStBT, Stanovich KE. Dual-Process Theories of Higher Cognition: Advancing the Debate. *Perspect Psychol Sci*. 2013; 8(3): 223–241.

(33) Nystrom DT, Williams L, Paull DE, et al. A Theory-Integrated Model of Medical Diagnosis. *J Cogn Eng Decis Mak*. 2015; 201X (XX, X): pp. 1–22.

(34) Tomlinson T. Methods in medical ethics. Critical perspectives. Oxford et al., 2012.

(35) Salzburg Global Seminar. Salzburg statement on shared decision making. *British Medical Journal* 2011; 342: d 1745.

(36) Strube W, Steger F. Handlungs- und Entscheidungskompetenz. In: Steger F, Hillerbrand R. (eds.). *Ethische Ausbildung bei Medizinstudierenden und Pflegeauszubildenden*. Praxisfelder angewandter Ethik. Ethische Orientierung in Medizin, Politik, Technik und Wirtschaft. Münster 2013: 21–46.



Phronēsis is recommended by the casuists as the proper way of making decisions in medical ethics and clinical medicine. It means the ability to make practical decisions based on personal experience independent from any theory. *Phronēsis* does not only require years of training but also a certain psychological disposition or “affective sensibility”.⁽³⁷⁾ The casuists follow Aristotle insofar as they claim that the decision-maker ought to be a magnanimous person (*anthropos megalopsychos*) who possesses personal experience in making prudent decisions (*phronimos*).⁽³⁸⁾ In this understanding, the decision-maker, be it the ethicist or the clinician, is an expert whose task is to analyze and decide problematic questions in medicine. Although Jonsen states that the decision-maker is no guru or oracle,⁽³⁹⁾ the casuist model suggests that making decisions is an almost arcane knowledge for a chosen few. When ethical questions arise, only the ethicist is able to make competent decisions. Since casuists claim that their model of ethics mirrors clinical practice, it follows that the same is true for the clinician. Patients seem to be marginal figures in the clinical situation as the casuists see it. This led some commentators to state the almost authoritarian character of casuistry.⁽⁴⁰⁾ It has to be noted that some casuists acknowledge the importance of the patient’s perspective, his or her values and preferences.⁽⁴¹⁾ But even those casuists understand the patient’s values and preferences as part of the circumstances that have to be taken into consideration by the decision-maker. That does not mean that the active participation of the patient in the decision-making process is intended. So when we look at decision-making, we find that also in this respect casuistry conflicts with the dominant understanding of the clinical practice.

B. Casuistry and EBM

The flaws in the casuist interpretation become even more evident when we look at EBM as the framework of contemporary clinical medicine. Far from resting

solely on building analogies between cases, as the casuists suggest, clinical medicine is a complex enterprise that draws on various source of medical knowledge. For the last decades, EBM has been seen as the ruling paradigm of medicine. From Cochrane in the 1970s⁽⁴²⁾ to Sackett, Rosenberg and others in 1990s⁽⁴³⁾ and its proponents today, the EBM-movement has advocated experimental empirical knowledge, mainly drawn from randomized controlled trials (RCTs) and meta-analyses, as the valid base for clinical decisions. The goal is to draw on the best scientific evidence available for decision-making in a clinical situation. To a certain extent, EBM diminishes the importance of individual experience as a source of medical knowledge. Clinical experience or pathophysiological theory, although not per se obsolete, play a minor role when it comes to decision making. According to its proponents, EBM allows for making a clinical decision without years of clinical experience. Furthermore, it meets the requirements of scientific validity. Hence, its proponents emphasize the status of empirical evidence which outranks case-based knowledge and individual experience. In a sense, EBM can be seen as a shift from a patient-oriented model to a public health-model of medical care.⁽⁴⁴⁾

Although EBM is still hotly debated, it is without a doubt the leading paradigm in contemporary medicine. It is easy to see that the EBM-approach runs counter to the casuist notion of clinical practice. With its emphasis on decision-making based on empirical evidence, EBM is markedly different from the casuist model of pattern recognition and building analogies. Furthermore, casuistry focusses on the individual patient and the particular case. The clinical experience of the practitioner and his or her ability to apply knowledge to the singular case at hand are of major importance. EBM on the other hand deals with generalizations and statistical projections. If we accept the notion that EBM is the ruling paradigm in medicine, the second proposition of the basic assumption is wrong. There is no structural equivalence between medical practice and casuistry when it comes to decision making. To phrase it in Aristotelean terms: Whereas casuistry is based on *phronēsis*, contemporary medicine is based on *episteme*.

(37) Jonsen AR, Toulmin S. The abuse of casuistry. A history of moral reasoning. Berkeley *et al.*, 1988, p. 331.

(38) Jonsen AR, Toulmin S. The abuse of casuistry. A history of moral reasoning. Berkeley *et al.*, 1988, p. 341.

(39) Jonsen AR. Casuistry as methodology in clinical ethics. *Theor Med.* 1991; 12(4): 295–307.

(40) Tomlinson T. Methods in medical ethics. Critical perspectives. Oxford *et al.*, 2012; Wildes K Wm. The priesthood of bioethics and the return of casuistry. *J Med Philos.* 1993; 18: 33–49.

(41) Strong C. Critiques of casuistry and why they are mistaken. *Theor Med Bioeth.* 1999; 20(5): 395–411.

(42) Cochrane AL. *Effectiveness and effectivity. Random reflections on health services.* London 1972.

(43) Davidoff F, Haynes RB, Sackett DL, et al. Evidence based medicine. *BMJ.* 1995; 310(6987): 1085–1086; Evidence-based medicine working group: Evidence-based medicine: a new approach to teaching the practice of medicine. *JAMA.* 1992; 268(17): 2420–2425; Sackett DL, Rosenberg WM. On the need for evidence-based medicine. *Health Econ.* 1995; 4(4): 249–254.

(44) Miles A, Charlton B, Bentley P, et al. New perspectives in the evidence-based healthcare debate. *J Eval Clin Pract.* 2000; 6(2): 77–84.

Again, the second proposition of the basic assumption has to be refuted because casuistry does not mirror the ruling understanding of clinical practice. It is, however, important to note that casuistry, although it is certainly not the paragon of clinical practice, fulfills an important role in current debates. Some commentators see casuistry as an alternative to the model of clinical practice suggested by EBM. Cohen et al. have identified several criticism of EBM.⁽⁴⁵⁾ Amongst other aspects, EBM is tied to a strict empiricism and lacks an elaborate epistemological foundation. Furthermore, due to its reliance on generalizations and its orientation towards public health, the benefit of EBM for the individual patient is limited. Finally, EBM transforms the patient-doctor-relationship in so far as it limits the options of doctors and patients by excluding certain forms of clinical knowledge.⁽⁴⁶⁾ Other critics also point out that EBM may lead to a deindividualization of medicine.⁽⁴⁷⁾ This is due to the fact that science and clinical practice aim for different goals. Science starts with an individual case and seeks to establish a general rule or principle. Medical practice on the other hand is faced with the problem of how to apply a set of universal rules and theoretical generalizations to a singular patient. The outcome of RCTs and meta-analyses is seen as the main source of medical knowledge backing a clinical decision in contemporary medicine. Clinical experience or pathophysiological theory, although not per se obsolete in EBM, play a minor role when it comes to decision making. Therefore, some state that EBM underestimates the complexity of clinical practice insofar as it propagates a rule-based reasoning dependent on general guidelines.⁽⁴⁸⁾ Regarding this point, there have been calls for a more moderate approach even from EBM-supporters, demanding to reevaluate the status of clinical experience.⁽⁴⁹⁾ This lead many commentators to accept the notion that clinical decision making needs to integrate various sources of knowledge

and information apart from RCTs and meta-analyses. Patient preferences and the model of shared decision making are in the focus of this debate.⁽⁵⁰⁾ Others have suggested reconciling EBM with patient orientated care and values-based practice.⁽⁵¹⁾ According to some commentators, the casuist understanding of medical practice avoids these faults. The patient-doctor-relationship is crucial to casuistry because it provides the basis for evaluating all relevant circumstances of the particular case. Therefore, the casuist approach may be a step towards a more patient-centered medicine, thus providing a means to counter the deindividualization of medicine. Following this view, casuistry provides a method of decision making which reevaluates clinical practice and is focused on the individual patient. So, by emphasizing the individual patient and the role of practical wisdom in clinicians, casuistry may be interpreted as an answer to the shortcomings of EBM.

IV. CONCLUSION

Casuistry suggests that clinical medicine is mainly about taxonomy and building analogies between cases. However, our examination of clinical reasoning and decision-making as well as EBM has shown that the resources clinicians draw upon for making decisions are more various. What does that mean for the basic assumption, which states that: 1. The structural similarity to clinical decision making makes an ethical approach adequate to medical practice and 2. Casuistry fulfills this criterion due to its method? We have seen that the decision-making process in medicine is far more complex than the casuists suggest. Apart from intuitive pattern recognition and the building of analogies, the analytical examination of hypotheses based on empirical data is a crucial aspect of clinical reasoning. By focusing on the intuitive approach or System 1 according to the dual process-model, casuistry does not take account of the analytical and data-driven aspect of the reasoning process, which is defined as System 2. When it comes to decision-making, casuistry focusses on *phronēsis* and the *phronimos*, thus leaving little place for SDM. Furthermore, casuistry's case-based approach which draws

(45) Cohen AM., Stavri PZ, Hersh WR. A categorization and analysis of the criticisms of evidence-based medicine. *Int J Med Inform.* 2004; 73(1): 35–43.

(46) Fernandez A, Sturmberg J, Lukersmith S, et al. Evidence-based medicine: is it a bridge too far? *Health Res Policy Syst.* 2015; 13: 66.

(47) Tonelli MR. The philosophical limits of evidence-based medicine. *Acad Med.* 1998; 73(12): 1234–1240; Tyagi, Garudkar S, Gagare AG, et al. Medical uncertainty: are we better off in era of evidence based medicine? *Int J Med Res Health Sci.* 2015; 4(1): 208–213.

(48) van Baalen S, Boon M. An epistemological shift: from evidence-based medicine to epistemological responsibility. *J Eval Clin Pract* 2015; 21(3): 433–439.

(49) Greenhalgh T, Howick J, Maskrey N. Evidence based medicine: a movement in crisis? *BMJ.* 2014; 348: g3725.

(50) Montori VM, Vrito JP, Murad MH. The optimal practice of evidence-based medicine. Incorporating patient preferences in practice guidelines. *JAMA.* 2013; 310(23): 2503–2504; Hoffmann TC, Montori VM, Del Mar C. The connection between evidence-based medicine and shared decision making. *JAMA.* 2014; 312(13): 1295–1296.

(51) Weaver RR. Reconciling evidence-based medicine and patient-centered care: defining evidence-based inputs to patient-centred decisions. *J Eval Clin Pract.* 2015. doi: 10.1111/jep.12465; Fulford K, William M, Peile E, Carroll H. *Essential values-based practice: clinical stories linking science with people.* Cambridge 2012.

on the expert knowledge of the practitioner contradicts EBM as the ruling paradigm of contemporary medicine. Casuistry by no means mirrors this paradigm; on the contrary, it is seen by some as an alternative. In conclusion, if we affirm the first proposition of the basic assumption, the second proposition has to be refuted. In other words: We can rightly assume that the adequate method of medical ethics should somehow mirror clinical medicine without agreeing to casuistry. Nevertheless, the notion that there are structural similarities between clinical practice and ethics, as the first proposition suggests, has a certain appeal. It would be interesting to use the first proposition as a test for other conceptions of medical ethics. This could be a fruitful perspective for further analysis. ■

V. REFERENCES

- Arras JD. Getting down to cases: the revival of casuistry. *J Med Phil.* 1991; 16: 29–51.
- Braunack-Mayer A. Casuistry as bioethical method: an empirical perspective. *Soc Sci Med.* 2001; 53(1): 71–81.
- Brody BA. Life and death decision making. Oxford *et al.*, 1988.
- Brody BA. Pluralistic moral theory (1995). In: Brody BA. Taking issue. *Pluralism and casuistry in bioethics.* Washington D.C. 2003: 31–44.
- Cochrane AL. *Effectiveness and effectivity. Random reflections on health services.* London 1972.
- Cohen AM., Stavri PZ, Hersh WR. A categorization and analysis of the criticisms of evidence-based medicine. *Int J Med Inform.* 2004; 73(1): 35–43.
- Croskerry P. A Universal Model of Diagnostic Reasoning. *Acad Med.* 2009; 84: 1022–1028.
- Croskerry P. Clinical cognition and diagnostic error: applications of a dual process model of reasoning. *Adv in Health Sci Educ.* 2009; 14: 27–35.
- Cudney, P. (2014). What really separates casuistry from principlism in biomedical ethics. *Theor Med Bioeth.* 2014; 35(3): 205–229.
- Davidoff F, Haynes RB, Sackett DL, *et al.* Evidence based medicine. *BMJ.* 1995; 310(6987): 1085–1086.
- Evans JStBT, Stanovich KE. Dual-Process Theories of Higher Cognition: Advancing the Debate. *Perspect Psychol Sci.* 2013; 8(3): 223–241.
- Evidence-based medicine working group: Evidence-based medicine: a new approach to teaching the practice of medicine. *JAMA.* 1992; 268(17): 2420–2425.
- Fernandez A, Sturmberg J, Lukersmith S, *et al.* Evidence-based medicine: is it a bridge too far? *Health Res Policy Syst.* 2015; 13: 66.
- Fulford K, William M, Peile E, Carroll H. *Essential values-based practice: clinical stories linking science with people.* Cambridge 2012.
- Greenhalgh T, Howick J, Maskrey N. Evidence based medicine: a movement in crisis? *BMJ.* 2014; 348: g3725.
- Hoffmann TC, Montori VM, Del Mar C. The connection between evidence-based medicine and shared decision making. *JAMA.* 2014; 312(13): 1295–1296.
- Jonsen AR, Toulmin S. The abuse of casuistry. A history of moral reasoning. Berkeley *et al.*, 1988.
- Jonsen AR. Casuistical reasoning in medical ethics. In: Düwell M, Neumann JN (eds.). *Wieviel Ethik verträgt die Medizin? Paderborn* 2005: 147–164.
- Jonsen AR. Casuistry as methodology in clinical ethics. *Theor Med.* 1991; 12(4): 295–307.
- Jonsen AR. Strong on specification. *J Med Phil.* 2000; 25(3): 348–360.
- Kahneman D. *Thinking, fast and slow.* New York 2011.
- Miles A, Charlton B, Bentley P, *et al.* New perspectives in the evidence-based healthcare debate. *J Eval Clin Pract.* 2000; 6(2): 77–84.
- Montgomery-Hunter K. Narrative, literature, and the clinical exercise of practical reason. *J Med Philos.* 1996; 21(3): 303–320.
- Montori VM, Vrito JP, Murad MH. The optimal practice of evidence-based medicine. Incorporating patient preferences in practice guidelines. *JAMA.* 2013; 310(23): 2503–2504.
- Nystrom DT, Williams L, Paull DE, *et al.* A Theory-Integrated Model of Medical Diagnosis. *J Cogn Eng Decis Mak.* 2016; 10(1): 14–35.
- Patel VL, Arocha JF, Zhang J. Thinking and Reasoning in Medicine. In: Holyoak K. (ed.). *Cambridge Handbook of Thinking and Reasoning.* Cambridge 2005: 727–750.
- Paulo N. Casuistry as common law morality. *Theor Med Bioeth.* 2015; 36: 373–389.
- Pelaccia T, Tardif J, Tribby E, *et al.* An analysis of clinical reasoning through a recent and comprehensive approach: the dual-process theory. *Med Educ Online.* 2011; 16: 5890.
- Sackett DL, Rosenberg WM. On the need for evidence-based medicine. *Health Econ.* 1995; 4(4): 249–254.
- Salzburg Global Seminar. Salzburg statement on shared decision making. *British Medical Journal* 2011; 342: d 1745.
- Strong C. Critiques of casuistry and why they are mistaken. *Theor Med Bioeth.* 1999; 20(5): 395–411.
- Strong C. Justification in ethics. In Brody B (ed.). *Moral theory and moral judgments in medical ethics.* Dordrecht 1988: 193–211.
- Strong C. Specified principlism: what is it, and does it really resolve cases better than casuistry? *J Med Philos.* 2000; 25(3): 323–341.
- Strube W., Steger F. Handlungs- und Entscheidungskompetenz. In: Steger F., Hillerbrand R. (eds.). *Ethische Ausbildung bei Medizinstudierenden und Pflegeauszubildenden. Praxisfelder angewandter Ethik.* Ethische Orientierung in Medizin, Politik, Technik und Wirtschaft. Münster 2013: 21–46.
- Tomlinson T. Methods in medical ethics. Critical perspectives. Oxford *et al.*, 2012.
- Tonelli MR. In defense of expert opinion. *Acad Med.* 1999; 74(11): 1187–1192.
- Tonelli MR. Integrating evidence into clinical practice: an alternative to evidence-based approaches. *J Eval Clin Pract.* 2006; 12(3): 248–256.



- Tonelli MR. The philosophical limits of evidence-based medicine. *Acad Med*. 1998; 73(12): 1234–1240.
- Tonelli, M. R. (2007). Advancing a casuistic model of clinical decision making: A response to commentators. *J Eval Clin Pract*. 2007; 13(4): 504–507.
- Tyagi A, Garudkar S, Gagare AG, et al. Medical uncertainty: are we better off in era of evidence based medicine? *Int J Med Res Health Sci*. 2015; 4(1): 208–213.
- van Baalen S, Boon M. An epistemological shift: from evidence-based medicine to epistemological responsibility. *J Eval Clin Pract* 2015; 21(3): 433–439.
- Waring D. Why the practice of medicine is not a phronetic activity. *Theor Med Bioeth*. 2000; 21(2): 139–151.
- Weaver RR. Reconciling evidence-based medicine and patient-centered care: defining evidence-based inputs to patient-centred decisions. *J Eval Clin Pract*. 2015. doi: 10.1111/jep.12465 [Epub ahead of print].
- Wildes K Wm. The priesthood of bioethics and the return of casuistry. *J Med Philos*. 1993; 18: 33–49.