

<https://www.ans.ch/en/hans-aebli/quotations>

Quotations from the work of Hans Aebli

The references in the following quotations refer to the bibliography of Hans Aebli deposited on the website of the Aebli-Näf Foundation (<https://www.ans.ch/en/hans-aebli/bibliography>)

Nature and Nurture

«So-called natural development is not a product of maturation. It is a product of everyday learning, and it is therefore highly dependent on the learning opportunities that the child finds in his or her surrounding culture, in its cultural stock. This doesn't mean that it would be possible to teach a child everything at any age and that his state of maturity plays no role in the course of this development. It does mean, however, that each development of higher mental capabilities needs to be achieved through learning, and that the child, for that to happen, needs to find the necessary opportunities in his cultural and human environment.» (1986b, p. 179)

«Dispositions open up possibilities; environment and education will have to make full use of them.» (1986b, p. 180)

«We can see that this conception of education takes very seriously the culture and the society in which the child grows up and is educated, as well as the language in which their common knowledge is formulated. There is no possibility for the child to grow and mature without the educational support of people who model and exemplify the forms of action and thought, the attunements, and the orientations in an adult and mature way, and who help the child to build up the respective ordering in his own thinking, acting, and experiencing. Leaving the child to grow is no alternative.» (1983a, 392)

Development of Actions, Operations, and Concepts

«The operations of thinking develop out of action. We have assigned a learning-theoretical and pedagogical (didactical) meaning to this developmental psychological thesis: The learning processes need to constantly start from an action, time after time. Within the action, it is possible to realize the basic structures of a conceptual experience. Subsequently, we strive for the gradual internalization, systematization and linguistic coding of that which has previously been acquired through acting. The concept is the theoretical counterpart to the action schema. It is objectified in the linguistic sign, while the action is objectified in the concrete outcome of the action (1981, 118). The hierarchical structure, however, is shared by both.» (1983a, 386)

«Every mental act is built up progressively, starting from earlier and simpler forms of reaction. Each operation has its own history. In the development of children's thinking, one can observe how operations, starting from simple action schemata, become more and more differentiated in order to develop increasingly complex and flexible systems, which are ultimately capable of interpreting the whole universe. The teacher's task therefore lies in creating psychological situations for a child, in which the child can build up the operations he needs to acquire. The teacher must pick up the earlier schemata which the child already possesses, and develop the new operation from these. The teacher needs to provide the material that is suitable for this mental activity and monitor whether the new operation is being sought in the desired direction.» (1951/1976, 88)

«The attempt to constantly and tightly guide the child's concept formation cannot lead to satisfactory results. We have to give the child greater freedom in the development of his thinking. This requirement is fulfilled if we can get the child to build up his concepts and operations himself through his own exploring and searching. Exploration is in actual fact the mental activity that is seeking to develop new responses. The first didactic problem that we need solve will be to determine precisely how the child's own exploring can be stimulated initially and thereafter be directed towards the intended goal.» (1951/1976, 90)

«If we therefore undertake to let the child capture not only all sub-elements, but also the overall structure of an operational complex, it does not suffice to let the student carry out each single step of the thought himself. He must be led to establish the fundamental (intrinsic) relationships that characterize an operational complex, and only thereafter integrate the partial operations. The child's exploring therefore needs to be given a framework, which from the very outset is aligned to the whole organization and which confers meaning to all steps that are taken in the course of searching. Now, this power which drives the process of inquiry can be engendered through nothing else but through a problem that is vivid in the student's thinking.» (1951/1976, 91/92)

«The psychology of Jean Piaget indeed teaches us that a problem constitutes an 'anticipatory schema', in other words a schematic outline of an operation that is yet to be found, which belongs to an overall system of operations. This operation structures itself over the course of seeking and exploring and is ultimately clearly structured.» (1951/1976, 92)

«If the child is successfully brought to build up an operation by starting from a clearly identified problem, one can assume that he has not only understood all elements of the new mental act, but also its overall structure.» (1951/1976, 92)

«When one speaks of 'formation of thought', one means 'formation of operations', and when one speaks of 'formation of operations', one means 'building up operations'. The building up of operations is accomplished over the course of seeking and exploring, and all seeking and exploring arises from a problem.» (1951/1976, 94/95)

«As far as is possible, the student who is groping for the solution must be given the opportunity to effectively perform the operations.» (1951/1976, 96)

Education and Development

«Education needs to render a person capable of culture. The person possesses this capability when he possesses action schemata, operations and concepts which enable him 'to orient himself in the world, to interpret the events which he encounters, to participate in cultural exchange, essentially also through reading and writing, and to solve the problems which present themselves to him.» (1983a, 354)

«Education does not take place in a vacuum, but rather in a given concrete society, and its purpose is the integration (of students) into this society and transmission, tradition of its culture, a culture to which the appreciation of creativity and capacity for innovation also belong.» (1973a)

«When one speaks of 'formation of thought', one means 'formation of operations', and when one speaks of 'formation of operations', one means 'building up operations'. The building up of operations is accomplished over the course of seeking and researching, and all seeking and researching arises from a problem.» (1951/1976, 94/95)

Teachers

«We interpret developments as the sum of the child's learning processes and we claim that important developmental impetuses emanate from his social environment, especially the family, but also from school. Educators possess techniques that trigger learning processes in the child which would never emerge based on his spontaneous activities. Important mechanisms in this conscious steering of the child's learning lie in the offer of structured behavioral role models, which, owing to his urge for action, the child imitates» (1983a, 391).

«Thus, we see a substantial part of the child's seemingly spontaneous development as being stimulated and guided by the interaction with adults in everyday life. If this stimulation is lacking, the child develops

symptoms of cultural deprivation and his development suffers. The educational effects in the family and in school differ merely in degree. The triggering and steering of learning processes occurs more systematically in school than in the family and in other areas of everyday life outside of school. School learning moves forward rapidly, but at the cost of many risks. All too often, the outcome is merely hollow words, without a deeper anchoring in behavior, and equally frequently, there is a lack of consolidation through diverse practice and application. Therefore, the reactions acquired in school often also rapidly decay. The results of learning in everyday life, by contrast, are frequently practiced and applied thousandfold and are thus deeply anchored in general behavior. On the other hand, the individual insights are often isolated here and with little systematic interlinking» (1983a, 391/392).

Freedom of the Child and the Adolescent

«The freedom of the child and the adolescent should grow with his ability to self-direction and responsibility. This requires a close look and a benevolent but realistic assessment of his potential at every level and in every area of behavior» (1986, 183)

«We must not let him (the student) constantly learn in dependence. If we do so, we indeed impart necessary knowledge and also the perspective of possible objectives and values; but without the opportunity to choose and realize them with a certain freedom, the crucial learning processes do not take place.» (1989d, 618)

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Acting and Thinking

«A person is stimulated to think when he is performing an action and gets into difficulty, if in the course of this action, a doubt or an alternative appears before him.» (1951/1976, 35/36)

«In the young child, action dominates over thinking. He is not yet interested in the relationship between things as such, but rather in the concrete results of doing. In the course of development, however, the proportion of insight, i.e. the knowledge share within the child's actions becomes increasingly important. Reflection strives to achieve a logical order, which becomes ever more systematic and coherent. Whether or not it is successful in its practical use can be demonstrated through suitable experiments. A richer and more mobile system of symbols allows for broader generalizations. At the end of this development of thinking are the coherent and verified intellectual systems which we call science.» (1951/1976, 37)

«We consider action as the first and original form of experience formation, and action knowledge as the first and original knowledge of man. One can therefore call our psychology and the associated didactics pragmatic, viz. close to pragmatism. For indeed, it was the fundamental thesis of the pragmatic philosophers and pedagogues William JAMES (1907) and John DEWEY (1916) that mental life begins with action, that its truth is a truth of probation in practice, and its role is ultimately to serve this again.» (1983a, 386)

Interest as a Teacher and a Scientist

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«Mich interessieren das Handeln und das Denken der Menschen und die Motive, die dieses bewegen, und diese sind mehr als der Hunger und der Durst, der meine Ratten im Labyrinth getrieben hatte. Dabei meine ich zu sehen, dass man jungen Menschen bei der Entwicklung dieser Kräfte helfen kann und muss, und es macht mir Spass, dies zu tun - und dabei zu ergründen, was dieses Helfen das eine Mal gelingen und das andere Mal misslingen lässt.» (1992, 28)

Contemplation

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«Idealerweise lernen wir ein Stück Wirklichkeit durch zielgerichtetes Handeln und durch das Lösen von echten Problemen kennen. Wir haben nicht sofort den Überblick. Wir müssen vielmehr mit den einzelnen Zusammenhängen kämpfen, sie schrittweise bewältigen. Aber an ihrer Widerwärtigkeit wachsen wir auch. Es ist kein Betrachten oben hin, auch kein blosses geistreiches Drüberreden. Wir suchen unseren Weg durch ein schwieriges Gelände. (...) Wir brauchen nicht bei der Kontemplation stehen zu bleiben. Wir können uns in der Wirklichkeit, die wir nun besser kennen, neue Ziele setzen, neue Ziele des Handelns und des Erkennens. So wird das System erweitert. Das Bild der Welt wird extensiv und vertiefend ausgebaut. Das System, das wir überblicken, wird zur Plattform für neue Handlungen und neue Problemlösungen» (1988a, 219/220).

«Der Mensch ist nicht nur ein Betrachter der Wirklichkeit, er ist ein homo faber. Kinder und Jugendliche, aber auch Erwachsene, möchten nicht nur sehen und verstehen, sie möchten etwas unternehmen. Sie haben ausser den sanften Motiven der Betrachtung starke Motive des Handelns, und zwar nicht in der spielerischen oder waltenden Form, die noch einmal der Kontemplation nahesteht, sondern in der zielgerichteten, risikoreichen und daher sich auf dem schmalen Grad zwischen Erfolg und Misserfolg bewegenden Form des Problemlösens und der projektartigen Handlung. DEWEY hat das schon im Jahre 1910 geschildert, für die Psychologen am eindrucklichsten in *Wie wir denken* und in seiner pädagogischen Ausmünzung sechs Jahre später in *Democracy and Education*.» (1988, 215)

Continuity of Acting and Thinking

«In action we see a striving for order and structure, which continues in a pure form in thinking. So, action is geared towards a goal of transparency and order. Its pursuit motivates the actor and the thinker, for where there is order there is life; confusion and chaos mean death.» (1980a, 16)

«The Real is the structure, the material is structure of lower order. The being is structured. It has a shape. The reality is order. Chaos is nothing. Creation means ordering: disconnecting and connecting. Therefore, thinking means generating existence. By thinking, we partake in the divine creativity. The constructed reality is a piece of reality which did not previously exist. (...) Any life is order: the organic and the mental. I accept PIAGET's fundamental thesis (...) which postulates continuity between mental and biological life. Orders build up progressively. Reason does not encounter the material 'from above'. Ratio is order at all levels.» (1981a, 390)

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Teachers and Their Tasks

«The teacher sees the student faced with the new object. He knows what needs to be discovered about it. But not just that. As a pedagogue, he also knows how the student can gain insight himself. Therefore, he does not tell him the final result, but rather guides him to carry out the cognitive act which he knows will lead to the desired result. (1961a, 142)

«There is a prevalent but erroneous opinion that a person who masters the subject matter is also able to teach.» (1982a, 111)

«Teachers of all levels should have knowledge of the psychological conditions of behavior and learning. Particularly important in this context are the psychology of cognitive behaviors, the theory of

higher learning and achievement and learning motivation and the theory and practice of performance testing (in today's words: diagnostic skills, Aebli-Näf Foundation).» (1968b, 188)/p>

«In 'Democracy and Education', John DEWEY (1916) has given schools the task of shaping the experience of the upcoming generation in a simplified, socially balanced environment, as one cannot 'impart' experience. For teaching, this means guiding the students towards independent experience instead of teaching them theories.» (1986d, 306)

«Processes of construction do not simply occur. They need to be triggered and guided by people who know the end product and know how to lead to this end product.» (1969, 76/77)

«We interpret developments as the sum of the child's learning processes and we claim that important developmental impetuses emanate from his social environment, especially the family, but also from school. Educators possess techniques that trigger learning processes in the child which would never emerge based on his spontaneous activities. Important mechanisms in this conscious steering of the child's learning lie in the offer of structured behavioral role models, which, owing to his urge for action, the child imitates.» (1983a, 391)

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«After seeking independently, the groups or the individually working students should always report on the results, and now the teacher has the opportunity to step in by revising and supplementing the data found. These reports which the teacher checks are of great importance because the weak students or those with little interest often do not come to the desired result in the course of independent seeking. The reports of their schoolmates and the amendments of the teacher then help them to keep up again.» (1951/1976, 99/100)

«Wherever there is a good teacher at work, the world becomes a little better.» (1983d, 3-13)

The Meaning of Being a Teacher

For further quotations please refer to the French or German pages

«Like veterinarians, lawyers, etc., teachers are also competent in a subject: teaching; and this art form should not be underestimated. Watching a good teacher at work is as beautiful as observing a violin maker.» (1985b, 29)

Learning and Development

«The whole development of a person's behavioral and knowledge base appears to be a huge process of construction with embedded phases of differentiation. Linking and objectification are the most important processes: Linking creates increasingly complex structures, objectification constantly consolidates them back into elements of high density and makes them available for incorporation into more comprehensive contexts.» (1978a, 622)

«The whole process of cognitive learning and of cognitive development is therefore to be understood as a constant repetition of the process of linking and consolidation, then reconnecting and consolidating. In this way, conceptual and operational 'hierarchies' emerge.» (1970e, 253)

«We interpret developments as the sum of the child's learning processes and we claim that important developmental impetuses emanate from his social environment, especially the family, but also from school. Educators possess techniques that trigger learning processes in the child which would never emerge based on his spontaneous activities. Important mechanisms in this conscious steering of the child's learning lie in the offer of structured behavioral role models, which, owing to his urge for action, the child imitates.» (1983a, 391)

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Humankind as Homo Faber

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«Der Mensch ist nicht nur ein Betrachter der Wirklichkeit, er ist ein homo faber. Kinder und Jugendliche, aber auch Erwachsene, möchten nicht nur sehen und verstehen, sie möchten etwas unternehmen. Sie haben ausser den sanften Motiven der Betrachtung starke Motive des Handelns, und zwar nicht in der spielerischen oder waltenden Form, die noch einmal der Kontemplation nahesteht, sondern in der zielgerichteten, risikoreichen und daher sich auf dem schmalen Grad zwischen Erfolg und Misserfolg bewegenden Form des Problemlösens und der projektartigen Handlung. DEWEY hat das schon im Jahre 1910 geschildert, für die Psychologen am eindrucklichsten in *Wie wir denken* und in seiner pädagogischen Ausmünzung sechs Jahre später in *Democracy and Education*.» (1988, 215)

Students' Motivations and Interests

«It doesn't have to be the case that the students sit bored and indifferent in lessons. It is possible to interest them even without driving them to work through exam and grade pressure and thus ultimately the threat of being thrown out of school and the destruction of an envisaged career path. (...) Now, one will ask how this can happen. Unfortunately, it is not possible to create intrinsic student interest with a simple recipe. It constitutes a delicate plant that needs to be cultivated with patience. It requires that the instruction satisfies the student's deep needs for insight, for overcoming problem situations, but also his curiosity and thirst for knowledge. It is also necessary for the teacher to exemplify this interest; the student has a keen sense for the genuineness and subject interest of the teacher and of his commitment to the lesson. Ultimately, the student has to have success in his learning activity and at the same time develop confidence, hope for success (Heckhausen 1964). If we only endow the student with experiences of failure and setbacks, it is no wonder that his motivation declines. This, in turn, requires two things. On the one hand, we have to plan the lessons such that the student directly perceives his own progress. The mere reference to its usefulness 'in life' is of little use here. On the other hand, we have to watch the student in the lesson, really see him, and in each moment try to sense whether he is able to follow, whether he reaches a result in his efforts to solve the set problems» (1980b, 25)

Problem Solving

«When one speaks of 'formation of thought', one means 'formation of operations', and when one speaks of 'formation of operations', one means 'building up operations'. The building up of operations is accomplished over the course of seeking and researching, and all seeking and researching arises from a problem.» (1951/1976, 94/95)

«If, when setting a problem, one does not tie in concepts and ideas which the student readily possesses, if the data to start with do not suffice, then the seeking and exploring does not lead to the desired results; one becomes lost, and some students refrain from making any effort.» (1951/1976, 95)

Problem-Oriented Teaching and the Importance of Tasks

«If we therefore undertake to let the child capture not only all sub-elements, but also the overall structure of an operational complex, it does not suffice to let the student carry out each single step of the thought himself. He must be led to establish the fundamental (intrinsic) relationships that characterize an operational complex, and only thereafter integrate the partial operations. The child's exploring therefore needs to be given a framework, which from the very outset is aligned to the whole organization and which confers meaning to all steps that are taken in the course of searching. Now, this power which drives the process of inquiry can be engendered through nothing else but through a problem that is vivid in the student's thinking.» (1951/1976, 91/92)

«The psychology of Jean Piaget indeed teaches us that a problem constitutes an 'anticipatory schema', in other words a schematic outline of an operation that is yet to be found, which belongs to an overall system of operations. This operation structures itself over the course of seeking and exploring and is ultimately clearly structured.» (1951/1976, 92)

«If the child is successfully brought to build up an operation by starting from a clearly identified problem, one can assume that he has not only understood all elements of the new mental act, but also its overall structure.» (1951/1976, 92)

«The task that underlies the student's free inquiry must be of such breadth that it preempts a meaningful operation and is not merely a partial act of thought, whose function within the overall consideration is only known to the teacher, while the student produces good luck answers, in the hope that something meaningful may come out of it.» (1951/1976, 94)

«As soon as the distance between the known old thinking schema and a new operation exceeds a certain limit, the class becomes lost in the course of researching. Hence, the rule for tasks which require independent seeking and researching from the student: Narrowing the breadth of the problem such that the class is able to find the solution itself, but without exceeding the limits of meaningful tasks.» (1951/1976, 94)

«Setting a task in a clear and vivid manner is the indispensable prerequisite for the student's own seeking and researching.» (1951/1976, 94)

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«A problem whose objective is to trigger or discover an operation is always an action schema that can be realized, be it by manipulating concrete objects or with the help of drawings on which students work by reshaping, dividing, transferring them etc.» (1951/1976, 96)

«What shape does a didactic unit take in school practice when the student is personally researching and seeking? As we have seen, it begins with a problem which is posed in the course of practical activities, either in real work in the school garden, workshops and suchlike or with other school work (fictitious problem of practical action). The task is discussed together until it is clear and vivid in the student's mind. The students then begin to search for the solution themselves.» (1951/1976, 99)

School and Learning

«School imparts knowledge that directly or indirectly serves to solve everyday problems and gives people a picture of reality; it (school) develops interests and values which help people to order and orient their behaviour. Action schemata, operations and concepts and the world knowledge to which they are linked have exactly this function, on the one hand in the cognitive domain and on the other hand in the sphere of interests and motives, as soon as their structures become bestowed with value and get intrinsically interesting.» (1983a, 353)

«If school learning is properly understood, it provides man with a repertoire of means for action and thinking, with the help of which he can master problems and situations that otherwise leave him helpless and disoriented. (...) We have said it over and over again: The teacher must adopt the idea that action schemata, operations and concepts are instruments for mastering new problems. Knowledge acquisition does not mean 'furnishing the mind', we must not understand its contents statically. Knowledge has a tool nature.» (1983a, 353/354)

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«School needs to constantly keep in mind that we 'learn for life' and therefore that what ultimately count are the achievements which the person accomplishes in the reality outside of school.» (1968b, 163)

Independent Learning

«After all, that is the ultimate goal of school and teaching, that the students become willing and able to learn on their own, that learning is no longer just the concern of the teacher, but rather a self-chosen and affirmed goal.» (1983d, 9)

«We must not let him (the student) constantly learn in dependence. If we do so, we indeed impart necessary knowledge and also the perspective of possible objectives and values; but without the opportunity to choose and realize them with a certain freedom, the crucial learning processes do not take place.» (1989d, 618)

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Structure and Construction

«In action we see a striving for order and structure, which continues in a pure form in thinking. So, action is geared towards a goal of transparency and order. Its pursuit motivates the actor and the thinker, for where there is order there is life; confusion and chaos mean death.» (1980a, 16)

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«Processes of construction do not simply occur. They need to be triggered and guided by people who know the end product and know how to lead to this end product.» (1969, 76/77)

«The Real is the structure, the material is structure of lower order. The being is structured. It has a shape. The reality is order. Chaos is nothing. Creation means ordering: disconnecting and connecting. Therefore, thinking means generating existence. By thinking, we partake in the divine creativity. The constructed reality is a piece of reality which did not previously exist. (...) Any life is order: the organic and the mental. I accept PIAGET's fundamental thesis (...) which postulates continuity between mental and biological life. Orders build up progressively. Reason does not encounter the material 'from above'. Ratio is order at all levels.» (1981a, 390)

«We follow SELZ, who stated at the beginning of this century (SELZ 1913, 1922) that human thinking is ordered in propositions of facts (Sachverhältnisse). We make it a fundamental methodological postulate: The structures of thought must be described in terms of the subject matter.» (1983a, 387)

«Structures are constructed. Constructing the finished product includes the process of construction in which it emerges. Our structuralism is constructive.» (1983a, 390)

«If we therefore undertake to let the child capture not only all sub-elements, but also the overall structure of an operational complex, it does not suffice to let the student carry out each single step of the thought himself. He must be led to establish the fundamental (intrinsic) relationships that characterize an operational complex, and only thereafter integrate the partial operations. The child's exploring therefore needs to be given a framework, which from the very outset is aligned to the whole organization and which confers meaning to all steps that are taken in the course of searching. Now, this power which drives the process of inquiry can be engendered through nothing else but through a problem that is vivid in the student's thinking.» (1951/1976, 91/92)

«When one speaks of 'formation of thought', one means 'formation of operations', and when one speaks of 'formation of operations', one means 'building up operations'. The building up of operations is accomplished over the course of seeking and researching, and all seeking and researching arises from a problem.» (1951/1976, 94/95)

Theory

Sorry, these quotations will not be translated

«Erziehen kann man auch ohne Erziehungswissenschaften: Das haben die zahllosen Generationen von Eltern bewiesen, die ihre Kinder in der Vergangenheit erfolgreich erzogen haben und sie noch erziehen. Wenn Erziehung von erziehungswissenschaftlicher Theorie abhinge, so wäre die Menschheit längst zugrunde gegangen, bevor der erste Pädagoge zur Feder gegriffen hat. Desgleichen kann man sehr wohl komplexe Techniken ohne jede pädagogische Theorie vermitteln. Alle jene Handwerksmeister, die ihre Lehrlinge in der Vergangenheit und in der Gegenwart erfolgreich ausgebildet haben, beweisen es» (1976)

«Aus derartigen Überlegungen heraus gilt es für uns Theoretiker der Erziehung (...), die abgeleitete Rolle der Theorie gegenüber dem praktischen Tun zu sehen, und dies nicht nur grundsätzlich, ontologisch, sondern auch im Hinblick auf die Ausbildung der Lehrer, also universitäts- oder metadidaktisch, als Überlegung zur Didaktik der Didaktik» (1985d, 214)

Understanding

«Capturing a process means expressing it through operations of thinking; understanding a process means seeing through the construction of these operations of thinking. If I recognize how the logical framework which expresses the process is constructed from its elements, how the parts relate to each other, how the parts are merged to form the whole, then I have at the same time also understood how the process is composed from its parts, how these build up the overall process, and how each sub-process finds its place within this.» (1961a, 112)