

**I**n my presentation to the teachers of the Rolf Institute I only want to comment on that sector of Rolfing which applies gravity and the laws of physics to the human body, the field of Structural Integration. You may ask: How can there be a difference between Rolfing and Structural Integration? I consider that differentiation useful for the following reasons: Rolfing and Structural Integration are only synonyms when a Rolfing session really results in the better integration of a client's structure just as flying is only flying when you get off the ground. However Rolfing sessions often enough do not result in Structural Integration. And that is o.k., for often a Rolfing session focuses on something altogether different from Structural Integration e.g. a client's psychological or physical problems the resolution of which may be a precondition for a successful integration of the body structure at a later date. And even if you succeed in integrating a client's structure, you obviously never only do that. It is always more. This differentiation is my idea and not part of the concepts of Hans Flury. I suggest it because it has the advantage of enabling us to more clearly define the focus we give our work. Rolfing then is anything a certified Rolfer does in the course of a session. The focus of this presentation is on Structural Integration only.

To clarify Structural Integration we have to answer a series of questions. Answers to these questions naturally do not claim to give the truth or to represent reality. They are always parts of a model, results of definitions and premises which are invented by the constructor of the model, in this case physics and Hans Flury. The model cannot be criticized as not being true, but only for being more or less useful for the practical purposes at hand.

The first question is: what is Structure? Structure is always seen in con-

trast and relation to function. The shape of the body as we see it is always the result of both function and structure. The shape itself cannot reveal structure, since that is always overlaid with function. Therefore it makes sense to differentiate the two by defining structure as that which is relatively constant in the human shape, say more than a day or two. Function in contrast is something in the shape of the human body that can be changed quickly and is reversible right away. The flow of emotions changing the shape of the body then would be functional, while constant collapse - which can also be result of a psychological pattern - would be structural. Structure may be the result of many factors. In the tradition of the Rolf Institute it is defined as being the result of fascial restrictions. The only practical relevance of this definition is that such structural restrictions are predominantly addressed by tissue manipulation even if in reality they actually may not be caused by fascia. The definition in the model is simple and tautological like all definitions: If tissue manipulation effects the change, the problem is understood to have been structural, i.e. the result of fascial restrictions.

The next question then is: how can it be possible to practically differentiate between structure and function? From the above definitions follows that one has to reduce function as much as possible. Hans Flury and Willi Harder have given a description of the procedure for the structural tilt of the pelvis. Theoretically the procedure looks for the point where a person strains to be as integrated as possible against his or her fascial restrictions and then relaxes enough to be as close to normal as possible without muscular tension. Hans Flury calls this the structural point. The position of that structural point would have to be determined for each function separately. Then it would be possible to find the structural impediments to

# Structural Integration and Rolfing



*Some Practical  
Implications  
from the*  
Notes on Structural  
Integration.



Presentation given  
to the  
Teachers Conference

by Wolf Wagner

that function. These impediments are structural restrictions.

What then is integration of a structure? If we take her definitions seriously, we must conclude that for Dr. Rolf producing balance or a more balanced order in the body in gravity constituted Structural Integration. If we want to bring more precision and differentiation to the field of inquiry, we have to start with this description and unfold its implicit content by applying the laws of physics. The question then is: what is balance or a more balanced order? Any body in gravity which does not change its relative position or movement is in balance or equilibrium whatever its form, energy expenditure, or structure. Therefore all structures, how crooked or artistic they may be, are in balance, if they do not move or change their speed. The forces acting on them balance each other out. Being in balance therefore cannot be a sign of integration. It must be something more. Dr. Rolf encouraged this unprecise use of the word "balance" which is so common in the Institute, when she wrote on the first page of her book: "The goal of this treatment is balance of the body in the gravity field;" but she then goes on and calls it "a more appropriate equilibrium" (p.11) when she writes: "The principle of the treatment is, in brief, that if tissue is restrained, and balanced (? ,W.W.) movement demanded at a nearby joint, tissue and joint will relocate in a more appropriate equilibrium.". In the beginning of the second chapter "Road Map to Structure" she explains what she means by "more appropriate" in the context of another definition of Structural Integration: "It (Structural Integration) is a physical method for producing better human functioning by aligning units of the body. Invariably, in matter, appropriate order is more economical of energy than disorder." (p.29). So it seems when she talked or wrote about balancing tissue or structure she meant creating a more economical equilibrium and a more economical way of functioning. For Ida Rolf therefore

Structural Integration meant better economy. In the logic of the model derived from Ida Rolf by Hans Flury it would mean to move the structural point closer to normal, i.e. to release fascial restrictions in the body in such a way that the person can come to normal in the Rolf sense with less effort than before.

So for Structural Integration the changing of structure in itself is no goal at all. The goal is better economy. And to attain that, one has to establish a better economy of function. So more economical movement is the highest goal. Structure only comes in as a consideration where such better economy of function is impeded by structural restrictions. In this model structural work is only a means to make more economical movement possible. In order to even be able to identify structural restrictions it is necessary to teach a client the optimum that he or she is capable of within that structure. So movement is first and not just a nice addition to our beautiful and magical structural work. In this model the job of a structural integrator or Rolfer is to teach normal movement first and then to remove all structural restrictions to that more economical movement! The next question then is: What determines the economy of balance and function? Gravity alone does not explain anything. Willi Harder has shown in the Notes 1989 in an article titled "Physics for Rolfers" that it is the combination of ground and gravity that matters. Gravity presses us against the floor and the resistance of the ground exerts an upward force against gravity. Because it is at a right angle to the horizontal it is called "normal force". It is the resultant of the attraction between the molecules in the ground that have been slightly displaced by our weight and want to return to their original more economic constellation. On soft or watery ground that force is weak and gravity wins. On solid ground gravity and normal force cancel each other out to create a balanced state or equilibrium. The two forces by definition always go through the

gravity center of the whole structure and always coincide although they face in opposite directions. Hans Flury has called it the Line. It is not a property of the body, but of the gravity field and is only constituted by the relationship of gravity field and normal force. Without the two there is no Line in this model. Its position is defined by the gravity center of the whole body. So it must shift and move through the body as the gravity center shifts in movement. In a forward bend in which the hips go far back the gravity center even moves out of the body. Obviously, therefore, the Line is no part of the body. This can be seen in a person lying curled up on her side like a doughnut. Her gravity center and therefore the Line is in the middle of the circle she forms and therefore outside of her body. So that Line is no part of the structure and has nothing to do with the quality of tissue or muscular patterns of a person. It is something belonging to the gravity field of the earth. It is created by the definition of how gravity and normal force relate to a body. In standing it can easily be felt in the feet as a pinpoint and it shifts as you shift your center of gravity. If the gravity centers of individual segments or blocks of the body are not in line with the Line, they have to be held in place either by tension in the fascial net or by muscle action against the rotational force which is equal to the mass of the segment multiplied by the distance of its gravity center from the Line. The economy of a balance can therefore be calculated by the distance of the gravity centers of the individual segments from the Line. If the segments are chosen in thin enough slices the gravity centers add up to a line which Hans Flury calls the midline. It is very much a part of the physical body and is the result of shortnesses in the fascial network or muscular work. The midline clearly must vary with every stance or posture. Thus its relationship to the Line expresses the degree of economy of each stance and therefore the relative economy of its balance.

You may ask, what is the relevance of all this? Well, if you look at the drawing of the block model with the skyhook from Ida Rolf's book (p.33) and apply these rules, you will find that this model shows a balance which is not at its optimal economy. In order to identify the line in that drawing or in any body, we have to find out first where its overall gravity center is located. And that has nothing, and I underline nothing, to do with the plumbline through the ear or a line up through the malloeli. It is a matter of judgement. In homogenous structures it is in the geometrical middle. So in the drawing it would have to be in the slim lumbar central block, not in its middle but more to its front, strangely enough just about in line with that skyhook. To determine the economy of the balance in the structure it is necessary to identify the gravity centers of the different parts of the system, in the drawing, those of the blocks, and to measure their distance from the Gravity Line. In the drawing the whole foot and lower leg is behind the Gravity Line. So is the lumbar and cervical block. While the pelvic and thoracic blocks are in front of the Gravity Line. In a soft body considerable tissue tension or muscular activity would have to hold the blocks in place instead of the support of the ground effortlessly carrying the whole structure against gravity from the ground up. If we rearrange the blocks in such a way that their individual gravity centers are in line with the Gravity Line, the model would have to look like in the second drawing. Then each block is supported from the ground against gravity without an unnecessary rotational component that has to be counteracted. In his article on "Shortness" (Notes 1990) Hans Flury has argued that it makes much more sense first to get length into the concave side, the side to which the blocks tend to tip or rotate so they have enough slack to come to the line before one starts any lengthening or softening on the compensating holding pattern! If these primary and secondary shortnesses are corrected, the

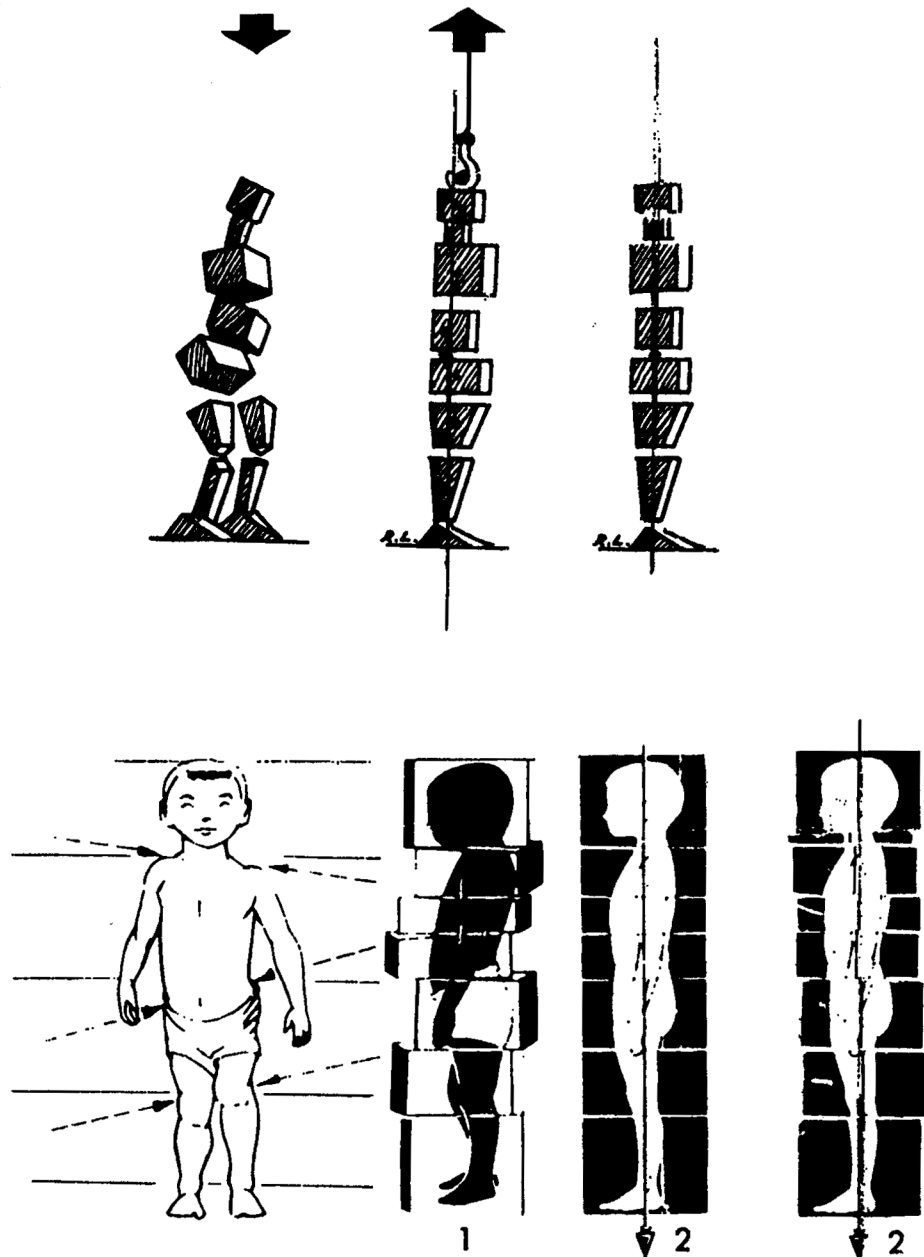
structure is in its most economical balance and: there is no need any more for that stupid skyhook! And: in the changed arrangement of the blocks which corresponds to the assumptions of physics suddenly there is space for the physiological curves of the spine.

If we apply the same principles to the little boy in the Rolf logo, we also get a different picture which shows much more ease than the original: His legs would have to be straighter, less hyper-extended, and more under his

pelvis. His lumbar and cervical curves would have to be more pronounced and his head could come back over his neck. In my eyes Johnny would look less strained and military-like. But his waist-line certainly wouldn't be back. Many people have complained about the logo from a gut feeling. But now we have a logical reason for this criticism based on the gravity model of physics.

So, if it is true that all of the post-ten pictures in Ida Rolf's book were made under postural guidelines by

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Dr. Rolf, none of them come even close to showing structural changes. Stances always are a mixture of both structure and function. Only in a relaxed stance that is as upright as possible without tensing against restriction an approximation to structure can be seen. But even if we assume as a simplification that the pictures and drawings in Ida Rolf's book did show structure, we will have to come to the conclusion that they do not show integration. Throughout the book all pictures and anatomical drawings made under Dr. Rolf's direction show the same deviation from the rules of gravity that are shown in the block-model with the sky-hook. In the text of the book, however, she clearly gives criteria for an integrated structure that are in accord with the laws of physics as they have been described here. On the first page she describes Structural Integration as changing the body "toward a structure that is more orderly and thus more economical in terms of energy" (p.15). And the accompanying text to that sky-hook picture not under the drawing but in the text itself is a clear contradiction of the drawing: "For a strain-free system, as we have said, there must be a vertical alignment of each block's gravitational center; there must also be no rotation or tipping of the segments". It is not for me to speculate on the possible reasons for this obvious contradiction

between physical logic and visual images. But it seems that in the history of the Institute the pictures have won over the logic. This all goes to underline Hans Flury's view (put forward in his editorial in the Notes 1988) that we still need to develop a theoretical concept of much of what Dr. Rolf called "normal". If for example we take the following quote (also from the first page of her book), we have to realize that we have no commonly shared idea in the Institute about either normal structure or normal movement: "Thus by changing the myofascia and bringing it toward the normal, the practitioner of Structural Integration evokes a more normal (in our sense of the word) movement." Some of it is being developed in the pages of the Notes on Structural Integration to be discussed, perhaps to be refuted, but above all to be further developed. Unfortunately up to now it is mainly ignored.

I think it would be worth our while to discuss whether we want to stick to the visual images given to us by Ida Rolf as goals of Rolfing or follow the logics of physics and design a new core to our Rolfing work: Structural Integration. And for that discussion I want to remind you of a poster I saw in the Rolf Institute. It had a picture of Newton and his apple. The caption said: "Gravity. It's not just a good idea. It's the law." □