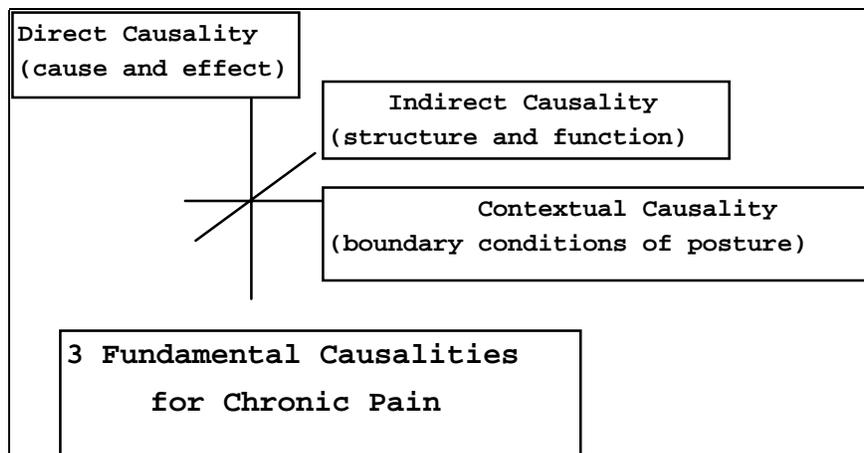


## VI. Summary

Discussed is the relative success and shortcoming of both the allopathic and osteopathic schools of medicine with respect to sub-acute and chronic pain of the NMS. Neither a model of direct causality, in terms of trauma, disease, or disorder, nor one of indirect encumbrance of homeostasis by somatic dysfunction, has routinely enabled the enduring relief from the most common presentation of a patients with sub-acute and chronic pain of the neuromusculoskeletal system.

A sufficient characterization of common, sub-acute and/or chronic pain makes necessary a **postural model** that is based on ten scientific principles, 6 accepted, 2 recovered from the annals of ancient Greece, and two posited, that broadens causality from dyadic model of causality, both direct and indirect, to a triadic model that includes a third and contextual causality, where homeostasis is mediated, in part, by the conditions of the postural boundary\ies within which homeostasis proceeds (Fig. 211).



**Figure 211. Posited: three fundamental causes of chronic pain: 1) direct causality from trauma, disease, and disorder; 2) indirect effects of somatic dysfunction; and 3) contextual effects from sub-optimal conditions of postural boundaries.**

The *boundaries of posture* are a quality of certain tissues that regulate the gravitational inclination of the body towards stability, economy and comfort when posture approaches optimal. Tissues with strong boundary character are the 1) *feet; and ankle* 2) *the sacral base*; and 3) *the skull* regions. The conditions of these boundaries include the

1. postural aspects of the feet:

- a. amplitude of three arches: the transverse, medial longitudinal and lateral longitudinal;
  - b. neutral position, level attitude and vertical alignment of the talus; and
  - c. alignment and verticality of the ankle with respect both to itself and to the other foot.
2. proper attitude of the sacrum in terms of
- a. levelness of the sacral base in the coronal plane;
  - b. tilt of the sacral base in the sagittal plane; and
  - c. a/p alignment of the pubic symphysis with the spinous process of S1 in the transverse plane; and
3. theoretically, symmetry of the sphenobasilar junction, being without
- a. rotation;
  - b. sidebending; or
  - c. flexion/extension;

which junction is pivotal for the overall symmetry of the skull and the proper function of the postural control system.

Under sub-optimal conditions of posture, there is an inclination towards sub-acute or chronic disease, disorder, and/or dysfunction, and failure to recover from trauma, any of which can be experienced in part as chronic pain.

For adults (and anecdotally, also for those who are younger) where these tissues are optimized in size, shape and attitude, there follows a **strong, enduring, and pancorporeal reduction of pain and somatic dysfunction**. Whereas, when pain and dysfunction is reduced by the manipulation of tissues having less boundary character, the greatest effect is local to the tissues that are manipulated, with less effect for the neighboring regions, and a weaker effect for the remainder of the

body. These pancorporeal effects of postural optimization on idiopathic pain are explained by a composite postural model, presented herein.

**By the precise use of orthotics to manipulate the conditions of the greater boundaries of posture towards their optimal geometry, one can enduringly and markedly alleviate the greater portion of that common, sub-acute and chronic pain, pancorporeally. This strong and enduring effect evidences that sub-optimal boundary conditions of posture is the greater origin of such pain.**

**Accordingly, the body can be powerfully and enduringly manipulated towards relief of common, sub-acute or chronic pain of the NMS by disencumbering the structure and the function of the NMS within the optimized boundaries of posture. At the present resolution, the problem of the question of the relation of normal posture to sub-acute or chronic pain is largely solved.** Needed next is a more refined model of the cranium as a boundary of posture. An entirely new dimension for the framework of natural science is unfolding, to the great advantage of future medical therapeutics. You, the participant reader, are a member of this cognitive evolution (Fig. 212).



Postural Relief of Common, Chronic Pain

**Figure 212. A ballerina shows awareness of her shape with respect to gravity.**

## **Recognition of Past and Present Associates**

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5. Jason Ellis, Physicist (retired), University of Texas, Arlington, has served for 15 years as a consultant to assure the physics and the critical reasoning applied in this model, and to critiques the style of writing.
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7. Ellen Page Garrison, M.F.A., Associate Professor of Ballet and Modern Dance and Chair of the Department of Ballet and Modern Dance at Texas Christian University. She, and over a hundred of her students of dance, cooperated with the author in research twice funded by the A.O.A., by which much of this method for postural optimization was developed. Ms. Garrison first challenged this investigator with the possibility that the standard of perfect motion pertains practically to the comfort of normal movers.
8. Jack Gramer, D.O., F.A.A.O., who invited the author into this field, and who first directed his attention to the import of feet to posture.

9. William Johnson, D.D.S., Restorative Dentistry, has worked with Ross Pope, D.O. in the application of oral orthotics to correct craniomandibular malocclusion to reduce associated chronic pain.
10. Affirming practitioners: James Hawa, D.O., Family Practice, Ross Pope, D.O. and Barry Rodgers, D.O., Rehabilitation Medicine, and David Ascher, D.O., Osteopathic Manipulative Treatment, have served as independent and affirming practitioners of the techniques for postural optimization described herein. Ross Pope directed the attention of this investigator to there being unexplained postural affects of the craniomandibular joint and the use of oral orthotics as they are applied in dentistry for the relief of craniofacial pain.
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**End.**