



# Achieving Balance Through the Art of Eating: Demystifying Eastern Nutrition and Blending it with Western Nutrition

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## Abstract

Eastern and Western approaches to nutrition are unique and possess both strengths and weaknesses. Blending the best of both techniques will allow for the development of an integrative nutrition system that is more effective than either tradition on its own. The Western view to nutrition is already adopting certain attributes of the Eastern medicine philosophy as exemplified by the progression towards individualized nutrition through methods such as nutrigenetics. Nevertheless, many differences still remain between Eastern and Western nutritional concepts. Becoming fluent in both Western and Eastern methodologies can ensure the extraction of the best from both techniques for the development of a comprehensive, systematic, and holistic nutritional approach to achieve optimal health.

**Key words:** Integrative nutrition, Personalized nutrition, Nutrigenetics, Holistic view of the individual, Pattern diagnosis

## Introduction

Although the view of food somewhat differs between Western and Eastern nutritionists, both share the similar belief that proper nutrition is essential for achieving optimal health. While their methods are generally viewed as distinct, a substantial amount of overlap exists between these two systems. Yet, since the two cultures use different languages to describe the properties of food, most people in the Western world, including Asian Americans, find Eastern explanations difficult to understand because of its use of archaic and metaphoric expressions. Nevertheless, both Western and Eastern approaches to nutrition possess their own respective strengths and weaknesses. Upon closer analysis, it can be seen that Western nutritionists, whether mindfully or unknowingly, are gradually adopting some Eastern

methodology in order to address certain limitations of Western approaches. It is evident that the strengths of one system can address the weaknesses of the other. Thus, blending the best of Western and Eastern practices will form a comprehensive, systematic, and holistic nutritional approach to achieve better health.

**Note:** In this analysis of Eastern and Western nutrition, Traditional Chinese Nutrition is used as the example of Eastern nutrition, while nutrition in the United States is used as the example of Western nutrition.

## Changes in Dietary Practices in the United States: Progression Towards Personalized Nutrition

The view of a healthy diet has undergone major

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transformations and still continues to be revised as scientific research on human nutrition progresses. According to Walter C. Willett, M.D., the chairman of the Department of Nutrition at Harvard School of Public Health and a professor at Harvard Medical School, “As late as the 1950s, a healthy diet meant eggs, bacon, and butter-slathered toast for breakfast, roast beef and mashed potatoes with gravy for dinner” (Willett, 2001). Clearly, this is no longer what nutritionists recommend. Americans are slowly letting go of the typical Western diet and adopting diets more conducive to health, such as the Mediterranean diet, low-glycemic diet, and anti-inflammatory diet.

As exemplified through the new United States Department of Agriculture (USDA) MyPlate icon, the key nutritional messages of the 2010 Dietary Guidelines for Americans are “balance, variety, moderation and adequacy” (.Eat.Right., 2011). Western nutritionists study food composition - proteins, carbohydrates, fats, vitamins, and minerals – and make dietary recommendations based on scientific experimentation and epidemiological studies. Through the ‘reductionist’ analysis, food is examined based on its components rather than as a unifying whole. Without taking into consideration the uniqueness of each individual in terms of lifestyle, genetic make-up, and overall dietary practices, findings from these studies generally become the basis of nutritional advice, such as recommended daily allowances (RDAs), for the overall population (Kaput and Rodriguez, 2006).

Nevertheless, recent discoveries indicate that food components can directly alter physiological functions through interactions with the body’s molecular machinery, which differs from individual to individual at the genetic level. These findings have stimulated the emergence of novel research approaches to nutrition (Raqib and Cravioto, 2009). Indeed, researchers have realized the need for personalized nutrition. Certainly, a common observation is that two individuals can follow the same diet and exercise plan, but one gains weight while the other does not. The emerging fields of nutrigenomics and nutrigenetics are quickly developing to address the discrepancies between peoples’ responses to identical substances. With genomic tools, scientists working in nutrigenomics seek to understand how nutritional molecules influence biological systems through metabolic pathways and homeostatic control. Ultimately, the search is for the optimal diet. Conversely, the objective of nutrigenetics is to decipher how differences in an individual’s genetic makeup

determine how the body reacts to food. Furthermore, personalized nutrition, uncovering the ideal diet for an individual, is the fundamental goal of nutrigenetics (Costa *et al.*, 2010; Mutch *et al.*, 2005).

The progress of Western nutrition towards personalized diets, based upon one’s genetic make-up, stresses the importance of the individual. Because of the wide variety of genetic polymorphisms that can impact nutrient absorption, metabolism, and transport, great caution must be practiced when making recommendations to the general population. For example, although the use of margarines with plant sterols added to reduce levels of circulating cholesterol may benefit some, others individuals with mutations in the ATP-binding cassette (ABC) transporters that are essential in promoting excretion of sterols may suffer from increased intake of sterols (Mutch *et al.*, 2005). Even though humans are approximately 99.9% identical at the genetic level, the 0.1% difference in the genetic sequence is sufficient to produce phenotypical differences such as varying eye colors, height, susceptibility to diseases, and responses to bioactive components of food. Consequently, diets must be personalized to each individual’s needs for optimal health (Raqib and Cravioto, 2009).

### Contrasting Terminology for a Holistic View of the Individual

While the examination of isolated nutritional factors have been a focus in the Western research and practice, the holistic view of each person has consistently been the main component of Eastern medicine. The key message of Eastern nutrition is the fact that an optimal universal diet does not exist. Rather, an individual diet must be designed for each person based on his or her constitution, lifestyle, environment, climate, and season. The main goal of Eastern nutrition is to use food as a means to achieve balance and harmony within the body.

In the language of Traditional Chinese Medicine (TCM), the expression of *Yin-Yang* (hot and cold) and the *Five Phases* (sweet, acrid, sour, bitter, and salty) characterize both the person and the food. Together, these properties determine which foods are the most beneficial for each individual. While *Yin-Yang* allows for the description between opposites – hot and cold or wet and dry, the *Five-Phases* give the illustration greater dimension by providing shape, character, and hue. Because neither the features of our bodies nor food are stagnant, the diets that result in balance and optimal performance will vary accordingly (Kastner,

2009), (Beinfeld and Korngold, 1991), (Shi *et al.*, 2011). Indeed, foods are selected to correspond to an individual's pattern, including heat, cold, and dampness conditions, and modified based on other important factors including lifestyle, environment, climate, and season.

In both nutritional systems, imbalance often leads to poor health. While the two approaches to nutrition emphasize the significance of balance, their view of this balance does not completely coincide. In Eastern tradition, the concept of balance in relationship to food and the individual denotes both internal and external harmony of *Yin* and *Yang* (van der Greef *et al.*, 2010), (Pitchford, 2002). In contrast, because food is described in terms of proteins, carbohydrates, fats, vitamins, and minerals and quantified by properties such as the caloric content and glycemic index in the Western world, their description of a balanced diet differs from the Eastern terminology. For instance, Eastern nutritionists emphasize the importance of following a dietary plan that results in a state of balance – meaning an individual with a hot constitution should follow a diet with a cooling nature (Pitchford, 2002). However, Western nutritionists focus mainly upon balance in terms of caloric intake meeting the energy needs of the body and nutritional value of food providing the essential nutrients and macromolecules for homeostasis, growth, and development (Sizer and Whitney, 2008).

### **Focusing on the Whole Rather than a Single Component**

Although researchers in Western nutrition have recognized that fruits and vegetables confer beneficial disease preventing properties, when scientists have attempted to isolate single components from these foods and incorporate them into a 'magic pill' for disease prevention, randomized control trials (RCTs) of these studies suggest that these molecules in their isolated form do not confer the same benefits as when they are consumed from whole food sources. For instance, observational studies indicate that eating fruits and vegetables high in antioxidants reduces the risk for cardiovascular disease, certain types of cancer, memory loss, and progressive eye diseases. However, the majority of RCTs, in which participants taking a specific antioxidant are compared with controls taking a placebo, have failed to show that supplemental antioxidants significantly decrease the risk of the health conditions previously mentioned. Researchers now recognize

the importance of understanding how all the complex compounds present in food interact with the body. In the case of fruits and vegetables, antioxidants and other nutrients found in fruits and vegetables may be essential for health benefits to manifest (Willett, 2001), (Bookshelf: U.S. National Library of Medicine, 2011).

Indeed, analyzing beta-carotene in the absence of its context led to disastrous results for some participants of the Beta-Carotene and Retinol Efficacy Trial (CARET). Based upon observational evidence that individuals with high intake of fruits and vegetables rich in beta-carotene have lower incidences of lung cancer, CARET researchers gave beta-carotene (30 mg) and retinyl palmitate (25,000 IU) daily to participants who were adults with high risk for lung cancer. However, this study was halted 21 months earlier than intended because of the startling findings that compared with the placebo group, there was 28% more lung cancer and 17% more death in participants who were taking the beta-carotene supplement (Omenn *et al.*, 1996). It remains unclear why the synthetic form of beta-carotene results in a contrasting phenomenon than the beta-carotene naturally found in fruits and vegetables. Since the majority of individuals in the study were smokers, one explanation that researchers proposed is that the combination of cigarette smoke, which generates large amounts of free radicals, and mega-doses of supplemental beta-carotene interacts negatively in the respiratory tract and epithelial lung cells. Recently, scientists have discovered evidence that smokers supplemented with beta-carotene developed more aberrant cell growth in the respiratory epithelium than those taking the placebo (Wright *et al.*, 2010). Certainly, the results of these studies emphasize the fundamental of Eastern tradition: for complete understanding, the part cannot be separated from the whole.

### **Example of the Convergence of Western and Eastern Nutrition: Inflammation and the Anti-Inflammatory Diet**

Although inflammation is the body's natural mechanism to heal and fight against infection, an overactive immune system that results in chronic inflammation is now thought to be the underlying cause of multiple health conditions, including cancer, diabetes, heart disease, and obesity. In contrast to the red, swelling reaction that is typically seen on the surface when the body heals in response to a cut or infection, chronic inflammation is often described as an "invisible"

type of inflammation that can take place throughout the body continuously. Oxidative stress that arises from the imbalance between free radicals and antioxidants is one possible source of chronic inflammation (Raqib and Cravioto, 2009). Scientists are now quantifying the intensity of inflammation with markers like C-reactive protein (CRP), which is a compound produced by the liver (O’Keefe *et al.*, 2008).

Similarly, Eastern nutritionists describe inflammation but with a different, more metaphorical language. The Western concept of inflammation is viewed by the East as internal *heat* deriving from the dominance of *Yang*. This *heat* can result from dysregulation of the internal organs, psychological stress, and heat-producing foods, which are also called pro-inflammatory foods in Western nutrition.

While the basis for their recommendations is dissimilar, the foods that Western and Eastern nutritionists suggest avoiding to reduce inflammation greatly overlap. Both approaches advise to minimize or eliminate foods that are highly processed, deep fried, high in sugar, or high in saturated or trans fats (O’Keefe *et al.*, 2008). Instead, whole grains, lean protein sources, fruits, vegetables, and nuts are key components of an anti-inflammatory diet.

### **Becoming Fluent in Both Languages: Blending the Western and Eastern Approaches to Nutrition**

While the Western approach is scientifically based, Eastern approaches have evolved over thousands of years upon the basis of empirical evidence. Nevertheless, neither system is perfect but instead both have much to learn from the other in order to develop approaches that will allow individuals to achieve optimal health.

Although Western methods have allowed for detailed analysis of isolated components through the ‘reductionist’ approach, in which the whole is fragmented into individual parts to facilitate examination, this has resulted in ample information about substances in the absence of their contexts. On the other hand, the holistic approach of the East often fails to explain the mechanisms behind why certain practices work.

Additionally, in the West, the emphasis is mainly on the nutritional content of the food before it is consumed and to a lesser degree on its interaction with the individual once it is ingested. While it has

been recognized that diets should be personalized, to simplify the process, currently customization on the USDA MyPlate website is based only upon age, sex, weight, height, and level of physical activity. However, this individualized plan is not truly personalized. Instead, the information entered is used to calculate the estimated daily caloric need and then generate dietary recommendations based on that calorie level. This USDA Daily Food Plan is based upon the *2010 Dietary Guidelines for Americans*, created after detailed analysis of current scientific evidence from nutritional and epidemiological studies, data analysis, food pattern modeling, and other methods of research.

In contrast, the East teaches that depending on the constitution, lifestyle, environment, climate, and season, each person needs a unique diet that will permit balance to be established within the body. Furthermore, it is not only the type of food alone that is relevant; the entire process from food production to digestion is essential. Eastern nutritionists consider how, where, and when the food is grown or raised, how it is prepared, how and when it is consumed, and the body’s response to the food. The Eastern healing tradition stresses the importance of appropriately timing meals and taking the time to enjoy food and not multitasking while eating.

Both the East and the West have unique approaches that would strengthen the other when combined. While a barrier in the form of misunderstanding or lack of interest seems to hinder the effective transmission of knowledge, it is important to overcome this obstruction to successfully blend the two approaches. Until this integration is achieved, both methodologies will be lacking in essential components necessary to guide individuals to optimal health.

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