<u>Who are you?</u> Your body is just a small part of a larger biomolecular network that consists of you and the trillions of invisible microbes that live in and on you-- without which you could not survive. Thinking of yourself as an autonomous individual may be a serious oversimplification.

<u>Be kind to your microbes.</u> When you take medications, or unregulated supplements, you are introducing chemicals into your body that you feel are beneficial to your health and well-being. However, these same drugs and supplements may have a profound effect on your coexisting microbes, in many cases causing unwanted side effects.

Dr. Martin Blaser in his book, *Missing Microbes,* clearly points out how the use of medications, in particular antibiotics, has contributed to diseases like asthma, diabetes and certain forms of cancer by upsetting the peaceful symbiosis between the human body and its microbes.

A recent Dutch study confirms that commonly used drugs and supplements can affect the metabolic function of the gut microbes with particular mention of laxatives, acid reducing medications, and specific vitamins.

<u>More about your microbiome</u>. Your body and your microbes have separate and unique compositions of DNA. Each has the same

objective to thrive, survive, and pass on its genetic message to the next generation of life.

Ninety five percent of your microbes live in your colon. There are trillions more microbes in your intestines than there are cells in your whole body. It may be humbling to realize that by cell count, less than 50% of your body is human.

By gene count, the microbes in your body have 10,000 times more genes than the number in your body, 23,000 versus 232 million. We are seriously outnumbered and outpowered by our microbes.

<u>Important functions done by our microbes</u>: The importance of our microbes cannot be overstated. Our bodies have outsourced a large number of critical functions to them that we are incapable of doing for ourselves. A few of those functions include, but are not limited to, the following:

- **Digestion of nutrients**
- **Regulation of intestinal acid balance**
- **Activation and deactivation of drugs**
- **Control of sugar metabolism**
- **Modulating the immune system**
- **Generating energy for cellular function**
- **Production of vitamins**
- **Prevention of colon cancer**
- **Protection of the intestinal lining from invasion**
- **Regulation of bile metabolism**

- **Regulation of gut motility**
- **Regulation of gut permeability**
- **Stimulation of intestinal mucus production**
- **Regulation of hunger and satiety**
- **Control of mood and behavior**
- **Production of new blood vessels (angiogenesis)**
- **Activation of new bone formation**

Our microbes have clearly become our "significant others" and our permanent houseguests.

The concept of two separate, distinct and unique universes of life coexisting presents a new way to view our existence and raises the question "Will the pronoun I become obsolete?"

Accepting the concept will almost certainly have an impact on how care providers will practice medicine in the future and may direct a change in human behavior once we recognize that we are responsible for more than just ourselves but also for our invisible "significant others".