

# DEHYDRATION: THE CAUSE OF MANY CHRONIC DISEASES

**Water is a life-giving energy source and regulates the body's metabolic processes. It is essential in the treatment and prevention of stress. Without a proper intake of water, we face the risk of developing chronic degenerative illnesses.**

**Part 1 of 2**

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Dehydration is the underlying cause of many chronic "diseases". Proper intake of water, salt and minerals can prevent these illnesses and even reverse the damage already done. So-called "modern" medicine still blames viruses or genetics for most of these degenerative conditions, and the pharmaceutical industry would lose billions in profits if people relied on the natural healing properties of water rather than on expensive and toxic drugs. Why the body needs water, the reasons why lack of water causes the body to become stressed and diseased, and very simple methods to ensure your own vibrant health are all explained here in detail.

What we doctors learned at medical school was based on a wrong primary assumption of science. Medical science is based on a number of flawed assumptions. Science of the 20th century is flawed; it represents a "dark age" of knowledge of the human body. Twentieth-century medicine, in order to seem "scientific", explained a whole lot of things, labelled things, wrote books and more books about the human body, about diseases, but everything that they wrote was about "diseases of unknown aetiology". It explained them, but didn't know how they arose. Then later on it started blaming viruses, and some time later it started putting the blame on patients, saying that their diseases are "genetic". So the medical community, in order to camouflage its lack of knowledge of the human body, produced labels and put the blame on the person. That was 20th-century medicine.

My discovery, which explains that everything in the human body or in any living matter is regulated by the presence of water, is a paradigm shift from the solid side of understanding of the human body to the solvent side of understanding of the human body.

## Histamine's Role in Water Regulation

Part of my education was about histamine (everyone has heard of antihistamine), which is a neurotransmitter in charge of water regulation of the body. So, in 21st-century medicine, the new truth is that *dehydration is the primary cause of painful, degenerative diseases* including cancer and AIDS. We had gone wrong in medicine and did not understand the role of histamine in the human body. We have to revise that understanding because now we know the solution to a lot of these disease conditions which are treated with antihistamines, and that solution is *water*.

Histamine is with us from day one of life. When the ovum becomes fertilised with the sperm, from that moment before it divides into two daughter cells to give life a chance to survive in its present form, it has the ability to release histamine. So, histamine is a neurotransmitter which is with us from "minute one" of life.

The human body contains a lot of water, but the water that is contained in

the body is mainly already osmotically engaged. In other words, it is busy with an activity, a chemical reaction, a chemical undertaking. That water is called *bound water*. Then the body needs, in order to perform new functions, osmotically free water, called *free water*.

### Water Is Necessary to Prevent Stress

In dehydration, even though the body has a lot of water in it, it is the lack of free water that constitutes dehydration. That is why you need to replace the water loss of your body with fresh intake of water in order to supply the body with free water to perform new functions. So, any time you want to perform a function which requires water to perform that function, you had better give that water to the body in advance of the event. In other words, if you want to eat, give it the water that is needed in order to digest food. If you want to exercise and sweat, give the body the water that it has to shed in sweat, and so on. It is free-water shortage in the body that constitutes dehydration. It's like a major business that has a lot of assets but no cash flow to pay the salaries of its staff. That's how a business gets into trouble, and that's why the human body gets into trouble when it doesn't have free water, which is the "cash flow" of the body.

Stress translates in the body into dehydration. In other words, every time you feel stressed, this translates into dehydration. The reason is that every time you're stressed, you secrete a lot of hormones that break up new material and mop up the free water from the circulation, and all of a sudden you are short of free water, so you are short of "cash flow". That is why the body begins to regulate the water content of the body: there is a "drought-management program" and stress management. In stress management, you get these hormones: vasopressin, endorphins, prolactin, cortisone-release factor [sic] and angiotensin, which is activated both at the brain level and at the kidney level. Vasopressin is a very important substance. Vasopressin is subordinate to histamine as a water regulator, and vasopressin itself is a very strong cortisone-release factor. When there is dehydration and you have histamine release, you also have vasopressin release and you also have tissue breakdown as a result of cortisone-release factor.

### The True Origin of "HIV"

Now, this is a very important thing that I discovered: vasopressin as a cortisone-release factor stimulates a substance called interleukin-1, which is another activator of physiological events, and cortisone-release factor and

interleukin-1 have a magnifying effect on one another; they create a vicious circle, an expansion system. At a certain level of dehydration and dependence on vasopressin, you get interleukin-1 activating interleukin-6 and tumour necrosis factor. These are the elements that begin to tap into the body's own tissues and break them down, cannibalised by these own tissues for resource management. It's because when you're dehydrated, your body also lacks the elements that the water will have brought to those areas in order that those areas still have some material to work with, and the body begins to break down its own tissue. Interleukin-6 and tumour necrosis factor activate enzymes called *proteases* at the cell membrane and wherever they are, and these proteases begin to break down and fragment proteins and the DNA; they cause fragmentation of DNA.

The new understanding, or my understanding, is that these fragments of DNA, as soon as they are released, bring a little bit of membrane with them—fragments that would be labelled as "viruses". These are the "slow viruses" which have the medical community not understanding the DNA component of dehydration breakdown. Dehydration produces disease, but the medical community has blamed it on the "virus".

One of the "viruses" that has received this treatment is "HIV" [human immunodeficiency virus] itself. HIV, the "slow virus", is a fragment of DNA and it was harvested in cell culture mediums by introducing interleukin-6 and tumour necrosis factor, and the product that was cultivated was labelled "HIV-1". This "HIV-1" is not a virus; it's a fragment of the DNA. It has the same characteristics as half of vasopressin itself. That is why they can never produce a vaccine against HIV, because as soon as they [try to] produce a vaccine against HIV they neutralise vasopressin, which is a water regulator. Vasopressin operates the reverse osmosis program of the body, and that would be tantamount to causing suicide of the cell or the body and killing the person. That is why they will never be able to use HIV and produce a vaccine for it, because it is part of the vasopressin molecule. This is the mechanism where all the auto-immune diseases occur. Interleukin-6, when it goes into the beta-cells of the pancreas, cuts the beta-cells, breaks down the beta-cell nuclear structure, fragments it and throws it out. It has been shown scientifically that this is the case.

This is a process of auto-immune activity that produces insulin-dependent diabetes. I will explain insulin-independent diabetes later on, but I wanted to explain this here for you to understand how some of these so-called "conditions" of "slow viruses" and auto-

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immune diseases are connected to dehydration as the origin of the disease and a lack of resources that the body would need in order to compensate for the deficiencies that dehydration brings about.

### Many “Diseases” Are Caused by Dehydration

In dehydration, we lose a lot of the essential amino acids and these are used as antioxidants because, when there isn't enough water to wash the toxic waste away, the toxic waste has to be neutralised, otherwise it will destroy the system. Tryptophan, tyrosine, methionine, cysteine and histidine become depleted as a result of being neutralised in order to compensate for the toxic waste build-up in the body that hasn't been washed away. You know that when you go to a field john [portable toilet], there is no water; you have a chemical there that sanitises, deodorises, whatever is introduced into the bowl. The body uses these elements as the sanitising elements.

Water distribution has another component which is very important. It's an emergency water distribution to the areas where water is so vital in order to perform a function. Histamine cells, mast cells, basophils and neurotransmitters contain histamine, platelet-activating factor and heparin. As you know, heparin prevents bleeding. Platelet-activating factor activates the platelets in order to break up and release whatever they contain. Unfortunately, platelets also contain a lot of serotonin, so the purpose of producing platelet-activating factor, which would produce coagulation of blood, and heparin, which prevents coagulation, is very simple because blood is 94 per cent water. When that water is to be tapped into, a tiny amount of bleeding is caused, and serotonin causes microscopic slits in the wall of the capillaries and then blood oozes out. Once the blood oozes out, its water is reabsorbed into the system, and the remainder, which is six per cent of the total volume, becomes plaques which we see in neurological disorders.

You have the blood-brain barrier, in which the capillaries are tight junctions. Nothing goes through them but through the wall; there are no holes in them like in the rest of the body. This is an emergency route of water supply, and we call this *vasculitis*. You can get it in the brain, you can get it in the kidneys, and you can get it in the gastrointestinal tract. That's how you get gastritis, bleeding of gastric ulcers and such. So, this

emergency route of water supply can produce migraine headaches, Alzheimer's disease, multiple sclerosis, Parkinson's disease, gastritis, purpura (bleeding into the tissue), nephritis, nephrotic syndrome and so on. This is the result because the body is short of water. It needs the water in order to perform a series of functions within that physiological activity.

In dehydration, you also get associated mineral deficiencies because you also become achlorhydric. The stomach does not produce enough acid, and you need acid in order to absorb zinc, magnesium, manganese, selenium and other essential minerals. So, in this pattern of mineral deficiency, you can see neurological disorders such as multiple sclerosis, Parkinson's disease, Alzheimer's disease and so on. The 21st-century view of the human body is that all actual diseases should be viewed as deficiency disorders, secondary to persistent dehydration. Once you're dehydrated, you become amino acid deficient and you also become mineral deficient, which is the foundation for all diseases in the human body.

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### The Drug Industry Suppresses Knowledge of Water's Benefits

By ignoring the dominant and vital importance of water to optimum health and well-being of the human body, the medical and scientific communities have allowed the drug industry to perpetrate fraud against society. What this industry has done for financial gain constitutes a form of terrorism: it terrorises people by producing fear tactics on the television and in the media and so on; it forces people to go to their doctors and demand a certain type of medication. One of them is for asthma, for example. Asthma is a state of

dehydration, and one of the ads that I have seen recently, everywhere, says "Life should take your breath away, not asthma".

Double-blind, randomised trials are only suited for evaluation of drugs and chemical compounds to ensure their safety. This costly procedure is not suited for study of the dehydration-produced metabolic problems and their associated deficiency disorders. In other words, throw that system of drug industry evaluation out of the window, go back to Nature and try to find out what your body wants—then give it to it. Don't listen to what the doctor says. Doctors don't know what the problem is with your body, and unfortunately doctors who are in the mainstream certainly don't know. I didn't know. I had to

spend 22 years of research in order to come to this level of understanding.

Those in the health care system who choose to ignore this information and continue to use drugs for conditions that are caused by dehydration and mineral deficiency would expose themselves eventually to being legally challenged as criminally negligent. So, sooner or later you will find one of these "ambulance chasers" taking a doctor to court, saying: "Why did you treat this person's hypertension with diuretics? You caused this man ill health, you caused him a lot of problems, and you shortened his life by at least 20 years as a result of your medication—diuretics, calcium-blockers, beta-blockers and so on. Whereas his body was short of water and that is why he had the hypertension." Now, that day will come soon.

Where did 20th-century medicine go wrong? What are the early symptoms and signs of dehydration? Twentieth-century medicine started thinking that a dry

mouth was the only sign of dehydration, which is wrong. In order to be able to chew and swallow food, even if you haven't drunk anything, your body produces ample saliva to perform that function, so dry mouth is not a sign of dehydration. Anyone who is waiting to get a dry mouth in order to drink water, or waiting to get thirsty in order to drink water, is inviting trouble. In fact, I wrote an article which was

published in *Townsend Letter for Doctors*, responding to Heinz Valtin, MD, of Dartmouth College, who said that people shouldn't drink water just like that; they should wait until they get thirsty. I wrote in the article that waiting to get thirsty is to die prematurely and very painfully, and in the article I called him ignorant; you shouldn't rely on his statement.

### Water Regulates Most of the Body's Functions

A mistaken assumption is that water has no direct metabolic role in the body, that only solutes regulate all the functions of the body, which is inaccurate. You have substance A and substance B and if you put them in a test tube, no reaction takes place. You learned that in your first year of chemistry. Then the teacher adds some water from a beaker and all of a sudden the whole reaction takes place. Now, was it substance A and substance B that reacted or was it the water that regulated all the reactions? My introduction into science and medicine is that water regulates all functions including the function of everything that it dissolves.

"Water-intake-regulating mechanisms of the body are efficient throughout the life span of the person" is another inaccurate statement because as we grow older,

in the same way that the eyes become less sharp, our ears become deaf a little more, and all the other senses begin to diminish, so does the perception of thirst. Unfortunately, the elderly do not recognise their thirst.

Scientifically it has been shown that with elderly people who were deprived of water intake for 24 hours, some of them, when water was put next to them, didn't recognise that they were thirsty—whereas the young people in the same group of study immediately started drinking lots of water.

### Caffeine and Aspartame are Poisons

Another mistaken assumption, which is a problem especially in America and probably in Western Europe, is that all fluids can replace the water needs of the body. That is junk science. It's not accurate. Caffeine in beverages is a dehydrating substance; it affects the brain and kidneys, and flushes more water out of the body than there is water in the cup. It inhibits enzymes in the brain that are involved in memory-making.

Phosphodiesterase is an enzyme that regulates the brain function for memorising things, so when you take caffeine you inhibit this.

Now, let's get into the philosophy of why plants manufacture caffeine or even cocaine. Why do you think? Chemical warfare. Plants insert caffeine and cocaine or have caffeine and cocaine in their

leaves and in their seeds so that they will make the ones that eat these things stupid. Phosphodiesterase is inhibited and that species begins gradually to lose the art of camouflage, alertness and quick reaction, and to become stupid, so it becomes eaten very quickly by predators, and that's how the plant defends its next generation of the species. Now, we take this coffee, brew it, concentrate it, and drink it. We give caffeine to our children, and then we cry foul, asking why our children have learning problems, why they have "attention deficit disorder". Blame it on the industry, the beverage industry that manufactures sodas. Unfortunately, now, a lot of sodas are even more concentrated. They used to be in eight-ounce (~0.24 litre) cans, and now they are in 12-ounce (~0.35 litre) cans. They have more caffeine. It used to be 50 milligrams of caffeine in a can; now it is 75 or 90 milligrams of caffeine. Starbucks coffee contains 180 milligrams of caffeine in a cup of coffee. So, this is the lifestyle problem of society that produces disease and stupidity and a whole lot of other things.

If that's not enough, they add artificial sweetener to it, which is a further crime against humanity. The artificial sweetener aspartame creates false hunger. It has been shown in animal models and in humans that as soon as

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animals and humans are given aspartame, within 90 minutes they're forced to go and eat even more. The reason is that a reaction called *cephalic phase response* occurs. As soon as the tongue is stimulated by sweeteners, the brain translates it into this quantity of energy depending on the sweetness. As soon as the brain realises that the energy that you promised it by the sweetness is not there, it compels you to go and eat, and eat more than you would have normally eaten. So that's why people who are taking artificial sweeteners in sodas, thinking that they're going to lose weight, are going to get fatter.

Aspartame has been involved in grand mal and petit mal seizures and optic nerve damage because 10 per cent is converted into methyl alcohol and formaldehyde. Depending on the quantity that you take, you're actually taking a poisoning system from your own gut for your nervous system and particularly for the optic nerve, which is very sensitive to methyl alcohol and formaldehyde. The sense of smell becomes affected. Aspartame has also caused brain tumours.

### How Water Performs its Life-Giving Functions

Water has life-giving properties. It manufactures hydro-electricity. In other words, it is a natural source of energy. All neurotransmission in the body depends on this hydro-electricity from water. That's why water is a better pick-me-up than anything you might imagine.

As for the process of hydrolysis, the medical community has always used the term "hydrolysis of this" and "hydrolysis of that" and yet it never assumes that water has metabolism of its own.

I spent six years at the University of Pennsylvania doing research in order to find this and put this thesis together. At a conference, one of the professors asked me what I do and I said, "I'm trying to look at metabolism of water." He frowned at me and thought me an ignorant person. He said, "We thought that water doesn't have any metabolism." I didn't want to offend him in front of his colleagues, so I said, "May I come to your office and talk to you about this?" He said, "Yes, by all means." So I got an appointment with him. He was an eminent professor at the University of Pennsylvania. I went to see him and in order to make sure I understood what he had said was correct, I said, "Did I understand correctly that you said that water has no metabolism, that water is just an inert substance along for the ride?" He said, "Yes." I

said, "Then what is hydrolysis? You use the word frequently and use it every time. What does hydrolysis mean?" If I had hit him with a ton of gold, it wouldn't have impacted his brain as much as that word did. He went white, pale, and he said, "Yes, of course, we never thought about that." So the word *hydrolysis* means *metabolism of water*. Water is a nutrient. Water is actually a primary nutrient in the body that your body depends on, on a regular basis, for its performance and functions.

Water at body temperature, when it is squeezed to 2.5 angstrom units, gels; it becomes like ice, and it's this thickness of ice that sticks the components of the cell membrane together. Water is actually a cementing material in the body, it's that mortar between the bricks, and lack of water will cause disturbance in that process. In order that the cell doesn't disintegrate completely, the body has found a substitute, and it's produced this stickiness of cholesterol in order to bind things together. So, cholesterol in the body performs not only an insulating function; it's also part of the emergency bonding material.

Now, as far as water being a source of energy is concerned, this is the research by Philippa Wiggins: "The source energy for cation transport or ATP synthesis lies in increasing chemical potentials with the increasing hydration of small cations and polyphosphate anions, in the highly structured interfacial aqueous phase of the two phosphorylated intermediates." This must be double Dutch to you, too! But trust me, it means that water is the source of energy for synthesis of ATP.

Now, hydrolysis of water produces energy. This is a formula calculated by George *et al.*

Magnesium ATP itself has only 600 kilojoule-moles of energy inherent in itself; but when it is hydrolysed, the components become 5,850 kilojoule-moles of energy. In other words, water has transferred its own energy to the components, and that's how it has driven the chemical reaction by the energy produced by hydrolysis. So, the pound of meat that you eat has no energy value whatsoever unless water is there to hydrolyse it and break it down. It is in fact the water that energises the food that you eat, the potato, the sugar. None of these has the ability to pass energy into the human body unless water is there to break them down and magnify the energy content by one order of magnitude.

There are two oceans of water in the body: one ocean of water is in the cells, and then there is the ocean of

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water outside the cells. Water that we drink goes through the cell membrane and replenishes the ocean inside. The salt that we take regulates the volume of the ocean outside. These two oceans have to be in balance. You cannot fill up the Atlantic more than it is full already and let the Pacific dry up, or fill the Pacific and let the Atlantic dry up: you have to fill them both. That's why God created connections between all the oceans, in order to balance the oceans. We also have to balance the oceans of water in the body. In fact, the design of the body is that it automatically balances these oceans by certain mechanisms. So, water and salt are vital elements in the human body. Water diffuses through the cell membrane at a rate of  $10^3$  centimetres per second, which is a very fast rate of transfer of water into the cell.

In a well-hydrated cell membrane, there is a channel between the two layers of the membrane. All the enzymes travel in that channel and meet their counterpart. They call this a *lateral diffusion of the enzyme systems*, and the body needs to have that channel sufficiently hydrated. The water comes through these elements, fills up this channel and allows physiological functions to take place. In a dehydrated state, the channel is gone. These processes come into another and they produce locks, so nothing travels. That's how the cell goes into hibernation. In bacteria and things like that which might have this same process, or in animals which go into a dry phase, this is how it happens.

*Reverse osmosis* is when we don't have diffusion, and the body has to filter water and inject it into the vital cells. Then we have the osmotic movement of water when glucose stimulates insulin production and the gates are open, and water travels with glucose and amino acids into the cells. This is a mechanism where we lose our perception of thirst, and gradually, as a result of lifestyle, we become susceptible to disease, depending on how much water we are taking or how many dehydrating beverages we are taking. When the body has to depend on insulin release to shift water osmotically into the cells, obesity becomes an unavoidable complication. That's what I'm writing on now; *Obesity, the Deadly Disease of Dehydration* is the [working] title of my next book.

In this process of reverse osmosis, vasopressin sits on its receptor and converts it into a "shower head" with a cluster of perforations of two angstrom units. This "shower head" process fills with the osmotically balanced serum, and the vasopressin puts a squeeze on the system and only water, one molecule of water, is filtered through the system. Alcohol stops this function. That's why you get a headache with alcohol, because

your brain depends on this mechanism in order to be hydrated on a regular basis. This is how the body transfers water into the brain tissue: reverse osmosis.

### Salt Is Vital for Life and Health

Salt is vital because it extracts and gets rid of acids. Sodium goes into the cell, a hydrogen ion goes out, and then potassium goes into the cell and sodium goes out. So, salt is vital for balancing the acidity of the cell. That's how the body becomes alkaline, because salt extracts the hydrogen ion and then the ion is taken to the kidneys and is flushed out if there is enough water. Salt is essential in order to regulate the blood sugar, and it's essential in order to manufacture hydro-electricity. Salt is vital to prevent catarrh. Salt is a strong natural anti-histamine. It prevents cramps. The structure of bones depends on salt for fullness, because 27 per cent of the salt reserve in the body is in crystallised form in the actual bone structure, in the shaft of the bone. Low-salt diets actually *cause* osteoporosis, not calcium deficiency.

When you don't have water and salt, not only do you not absorb calcium but you also get rid of calcium.

Nerve cell communication depends on salt. Absorption of food depends on the sodium-potassium activity. Asthma and cystic fibrosis are conditions that can benefit from salt intake as well as water.

Now, you've all seen these elderly people who develop leaky bladders; they have no control. This is a salt-deficiency problem. You need salt in order to strengthen smooth muscle; and when you don't have enough

salt, smooth muscle loses its integrity. This is a testimonial from Dr E. Reed [sic]: "I have a weak bladder and have even taken spare clothing as I was sure it would be needed. I arrived with not a drop of anything on my clothing. I had talked myself off salt—a bad mistake." For years she had had this problem until she came across my information on salt and started adding salt to her diet. Within three or four days she became continent; she lost her incontinence.

### Water Regulation of the Body

Water is essential through all phases of the body's growth, from the intra-uterine phase of life until you reach your full height and full weight. Growth hormone and histamine regulate water intake. As you grow older, you lose the concentration or secretion ability of growth hormone, and gradually you only depend on histamine in order to regulate water intake of the body.

Histamine is forcing us to drink water, but, if instead of

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## Dehydration: The Cause of Many Chronic Diseases

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water we take tea, coffee, sodas and alcohol, we gradually dehydrate the body. Now, if we take water, the pattern of life can go up to 150 years, depending on if we understand the water level of the body and the composition of the materials that we put into the body.

So, good diet and hydration are essential for long life. Growth hormone disappearance is secondary to tryptophan and serotonin deficiency. Growth hormone is under the control of the tryptophan and serotonin levels of the brain, so the tendency to lose that is secondary to the serotonin level of the brain. Once you hydrate the body, gradually the growth hormone level comes back up, so I'm told.

The ratio of water inside the cell to the ratio of water outside the cell between the ages of 20 to 70 has changed from 1.1 to 0.8; in other words, there's far less water inside

the cells. The "plum-like" cells, because of your not drinking water and not allowing water to seep through the cell membranes, gradually turn into a "prune-like" state—that is, a state of disease, a disease-producing state. In other words, persistent and intentional dehydration reveals itself in as many ways as we in medicine have labelled as diseases. We have labelled diseases; we have invented diseases.

We have not had diseases; we have had "dis-eases" of dehydration. If we recognise these dis-eases that can be relieved with water, diseases will go away. So will the sick-care system, so will a lot of doctors, so will the pharmaceutical industry—and thank God for that!

### About the Author:

Fereydoon Batmanghelidj, MD, was born in Tehran, Iran, in 1931 and died in Virginia, USA, in 2004. He received his formal medical training at St Mary's Hospital Medical School of London University and

practised in the UK before returning to Iran, where he played a key role in the development of hospitals and medical centres. During the Iranian Revolution, he was a political prisoner and he treated fellow inmates with the only medicine available: water. After his release from prison in 1982, he escaped from Iran and migrated to the USA.

Dr Batmanghelidj devoted most of his medical life to researching the cause and cure of different ailments in the human body. He had a number of books, videos, audiotapes and medical research series published. He was best known for his book *Your Body's Many Cries for Water* (1992, 1997; reviewed in NEXUS 3/01; see WaterCure.com).

### Editor's Note:

The transcript of Dr Batmanghelidj's lecture was provided by The World Foundation for Natural Science, based in Washington, DC, USA (see <http://www.naturalscience.org>). The full text of his lecture is posted online at <http://tinyurl.com/k2bam38>.