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The Book of Pomegranates
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THE BIOCHEMICAL MIRACLE OF BERRIES

Is pomegranate juice the real elixir of life? It's very tempting to attribute all kinds of powers to this unusual plant. In fact, evidence of its various properties goes back a long way.

Hippocrates (circa 460-370 BC) recommended that a woman suffering from stomach pains should take just one meal a day consisting of barley grains drizzled with pomegranate juice.

Galenos of Pergamon (circa 129-215) commented on this as follows:

Harmful fluid had clearly moistened the area around the stomach entrance, also known as the cardia, and thus caused vomiting and stomach discomfort in the woman. [...]

The barley grains dried up this liquid and the pomegranate juice taken at the same time strengthened the body, enabling it to flush out the liquid retained in the stomach lining. The pomegranate provides the body with very little sustenance, so we never consume it for nourishment but only as a remedy.

The Roman general Cato (234-149 BC) knew of the worming properties of bark. In

Satyricon there is reference to the bark of the pomegranate being used to relieve abdominal pain. Every part of the plant has been used in traditional medicine. The juice is considered to be antipyretic (i.e. used to prevent or reduce fever), while its root bark has astringent properties and is effective in treating worms. A paste prepared from the bark of the tree trunk is recommended for the treatment of haemorrhoids. Powdered flower buds are prescribed for bronchitis. A paste made from the leaves relieves burns and prevent infections.

One observation that does not chime with the fact that the fruit has so often been used as a fertility symbol owing to its large number of seeds, is its reputed contraceptive effect. The peel was allegedly even used in ancient times and the Middle Ages to induce abortions. This particular use of the plant's materials has long been common in India and continues even to this day. It would explain the contradiction of the traditional anecdote that Catherine of Aragon ate pomegranate seeds to give Henry VIII a son — but without success. In the past, it was often claimed that pomegranates contain oestrogens: this, however, has not been confirmed by recent studies.

Paracelus (1493-1541) recommended pomegranates to prevent dental diseases. He compared the seeds visible in a cracked-opened pomegranate to rows of incisors and, following the so-called “doctrine of signature” (i.e. that herbs resembling parts of plants could be used to treat ailments for those body parts), thought he saw a connection. After all, the use of the tannin-rich pomegranate bark can actually have a soothing effect on inflamed gums.

Levin, mentioned elsewhere, reports that Soviet cosmonauts, pilots, submarine drivers and coal miners were given pomegranate juice to boost their health and endurance. Even the monkeys aboard USSR spaceships are said to have been given a mixture of pomegranate and rosehip juice.

What effect do this plant's substances have on the human body? By now, its ingredients have been precisely analyzed. First, the fruit contains various vitamins and minerals, such

as phosphorus and potassium, in addition to dietary fibre. Interestingly, the pomegranate's vitamin C content of between 4 to 15 milligrams per 100 grams of edible portion, is not particularly high. But what is striking is the high content of polyphenols and flavonoids it contains, which are said to have an antioxidant effect. Some suspect that it is precisely this mixture of different substances that plays a crucial role. The synergism of polyphenol compounds seems more effective than isolated ingredients such as punicalagin, ellagic acid or tannin-rich extracts. What's more, the antioxidant potential of pomegranate juice is apparently significantly higher than that of red wine, green tea, and blueberry and grape juice. A strong inhibition of microorganisms that cause dental plaque has also been observed. But to protect teeth enamel, dentists recommend an interval of an hour between drinking pomegranate juice and brushing your teeth.

There is growing evidence for the preventive and therapeutic health effects of pomegranate or fermented pomegranate extract, namely to treat arteriosclerosis, hypertension, rheumatic diseases, bacterial infections, various cancers and disorders of the lipid metabolic system. The Spanish nutritionist Enrique Roche Collado, who represents a multitude of pomegranate researchers here, is confident that pomegranate extract can delay, albeit not altogether stop, the progression of Alzheimer's disease. He also claims that the Omega 5 content of the seeds has a positive effect on increased cholesterol levels and acne. He has also found that high-performance athletes recover much faster after competitions when they drink pomegranate juice immediately afterwards. This kind of information should, however, be taken with a small pinch of salt. Making the leap from promising cell cultures to successful human treatments often needs to be proven in costly clinical trials.

Here it bears remembering that all that glitters is not gold. About ten years ago American researchers created a stir with the hypothesis that pomegranate juice contains HIV entry inhibitors in particularly high concentrations, which might prevent infection from pathogens. My spot-check query with a leading scientist at the time, however, showed that this theory had

not been pursued.

While there were a mere thirty essays on the effect of plant substances in scientific journals between 1945 and 2000, this number has proliferated since then. One of the main reasons for researchers' sudden interest in the fruit is a study by Israeli biochemist Michael Aviram, who first published a report on the antioxidant effects of pomegranate juice in 2000. He had previously dealt with various types of fruit and vegetables and their effect on arteriosclerosis before discovering that pomegranate juice is even more favourable than red wine in this respect. The Haifa-based researcher has since continued his research. From 1999 to the present day, he has contributed to no less than fifty-five studies. And it's probably not that surprising that he claims to eat pomegranates regularly himself. In response to questions about his further plans, Aviram considers experiments with mixtures of different ingredients to be a particularly promising field. For example, pomegranate juice in combination with date-nut oil or statins is now being administered to absorb free radicals and to lower blood serum cholesterol.

POM Wonderful, the American market leader in a ready-to-drink pomegranate juice, decided to launch a widespread, aggressive marketing campaign in 2012. However, the German Federal Trade Commission ruled that POM's advertising was misleading, because it claimed that pomegranate juice could prevent, reduce or even cure heart disease, prostate cancer and erectile dysfunction. The company felt compelled to defend itself by broadcasting new adverts freely citing quotes from the ruling. This is how it came up with a picture of a juice bottle with a noose around the neck and the slogan: "Cheat Death. Pom Wonderful. The Antioxidant Superpower". Meanwhile, POM uses the slogan "crazy healthy" in a slightly more restrained claim to the fruit's alleged benefits. Fire-breathing dragons, among other things, now feature in its commercials.

The range of products using pomegranate parts is widespread. The cosmetics industry offers cold-pressed pomegranate seed oil. The oil extracted from the seeds contains unsaturated fatty acids that moisturize the skin and promote its regeneration.

Pomegranate wines, which already existed back in ancient Egypt, are still a niche product today. However, when buying them it is good to bear in mind that drinks declared as “wines” are sometimes only flavoured or mixed with pomegranate juice. Drinking an Armenian pomegranate wine was a rather sobering experience: its taste reminded me of pepsin wine. But the jury is still out. Others have already compared it to Génépi, a herbal liqueur. The Israeli-based Rimon Winery on the Lebanese border near the Sea of Galilee, which is run by the Nachmias family, offers both sweet dessert wines and dry pomegranate wines. Grenadine, the syrup once made exclusively from grenadine pomegranates, gives Tequila Sunrise its beautiful reddish colour.

Finally, not everything that claims on the label to contain pomegranate extracts actually does so. The suspiciously strong Turko-Baba pomegranate tea blend, which was once offered to me in an oriental bazaar and is reminiscent of sherbet powder, probably only has one thing in common with the fruit: its colour.