



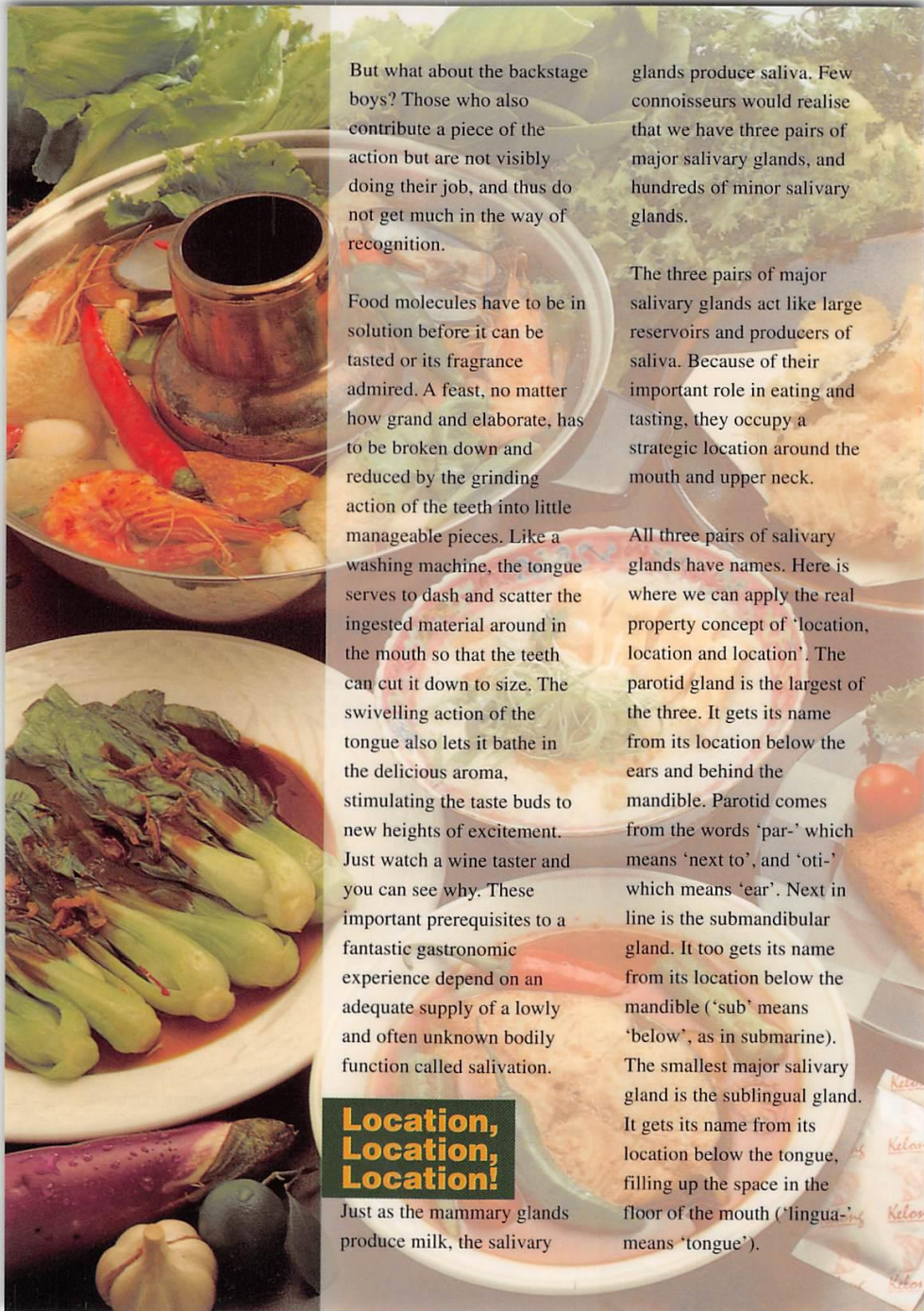
Good FOOD & Fine Dining

*- A Cause For Celebration...
and Salvation*

**BY DR KEVIN SOH B K,
CONSULTANT EAR NOSE THROAT SURGEON
NATIONAL UNIVERSITY HOSPITAL**

Eating is such a normal experience of daily life that we often fail to stop and think about it. While eating serves to provide us with the energy, vitamins and proteins we need for life, it has a more romantic and seductive appeal to it. It is a source of tremendous joy, delight, satisfaction and contentment. In cultures all over the world, food and cuisine has developed into a highly developed art form. Eating is one of the most pleasurable activities in life.

So the next time you chew on steak or savour tim sum at your favourite restaurant, stop and think for a while. What is it about eating that gives you so much happiness and contentment? Obviously a sturdy sense of smell and taste is important. Or else how are we to enjoy food? Smell and taste are like the actors in a drama. They are in the limelight. Their role in the enjoyment of food is visible and obvious.



But what about the backstage boys? Those who also contribute a piece of the action but are not visibly doing their job, and thus do not get much in the way of recognition.

Food molecules have to be in solution before it can be tasted or its fragrance admired. A feast, no matter how grand and elaborate, has to be broken down and reduced by the grinding action of the teeth into little manageable pieces. Like a washing machine, the tongue serves to dash and scatter the ingested material around in the mouth so that the teeth can cut it down to size. The swivelling action of the tongue also lets it bathe in the delicious aroma, stimulating the taste buds to new heights of excitement. Just watch a wine taster and you can see why. These important prerequisites to a fantastic gastronomic experience depend on an adequate supply of a lowly and often unknown bodily function called salivation.

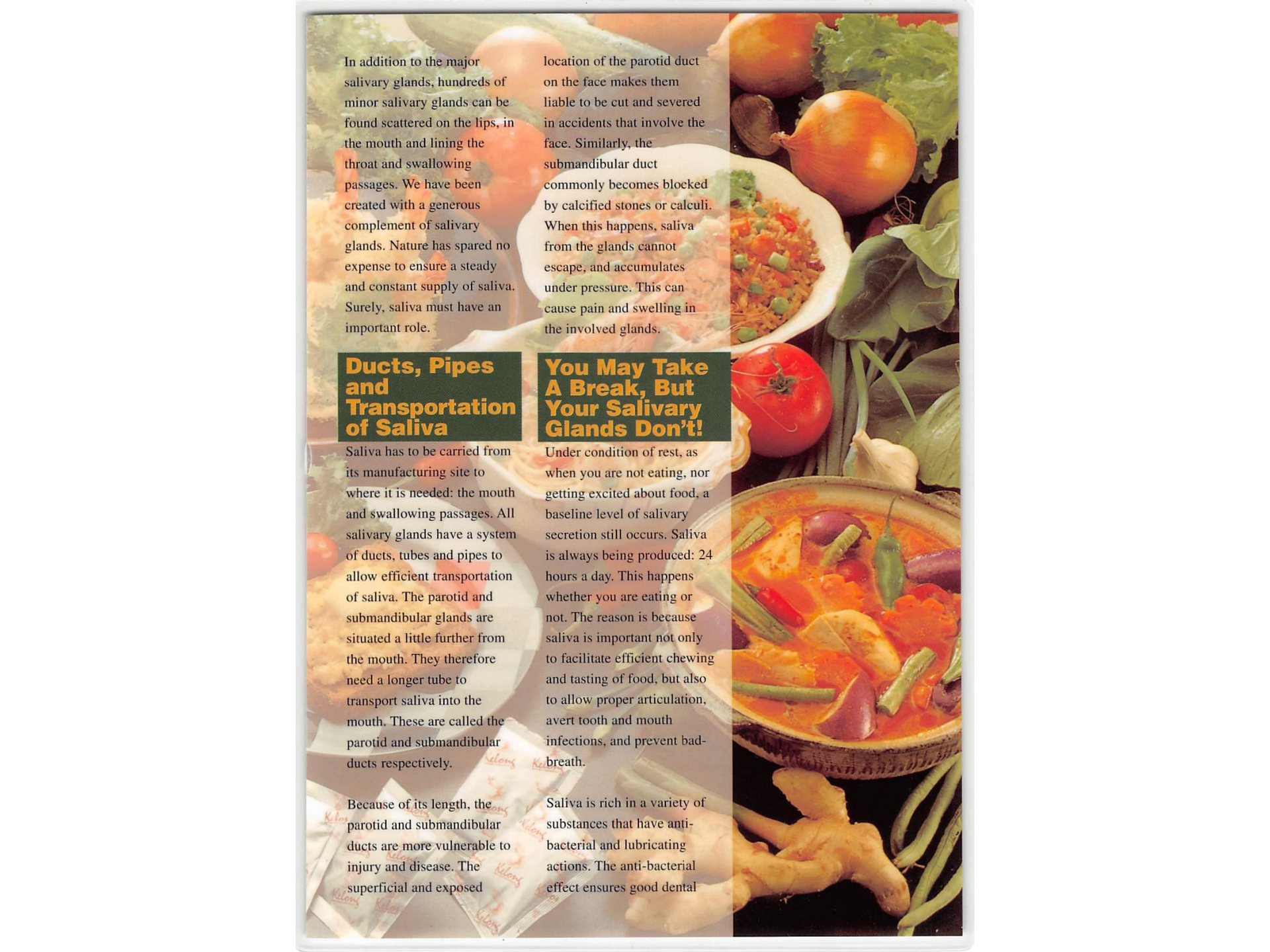
Location, Location, Location!

Just as the mammary glands produce milk, the salivary

glands produce saliva. Few connoisseurs would realise that we have three pairs of major salivary glands, and hundreds of minor salivary glands.

The three pairs of major salivary glands act like large reservoirs and producers of saliva. Because of their important role in eating and tasting, they occupy a strategic location around the mouth and upper neck.

All three pairs of salivary glands have names. Here is where we can apply the real property concept of 'location, location and location'. The parotid gland is the largest of the three. It gets its name from its location below the ears and behind the mandible. Parotid comes from the words 'par-' which means 'next to', and 'oti-' which means 'ear'. Next in line is the submandibular gland. It too gets its name from its location below the mandible ('sub' means 'below', as in submarine). The smallest major salivary gland is the sublingual gland. It gets its name from its location below the tongue, filling up the space in the floor of the mouth ('lingua-' means 'tongue').



In addition to the major salivary glands, hundreds of minor salivary glands can be found scattered on the lips, in the mouth and lining the throat and swallowing passages. We have been created with a generous complement of salivary glands. Nature has spared no expense to ensure a steady and constant supply of saliva. Surely, saliva must have an important role.

Ducts, Pipes and Transportation of Saliva

Saliva has to be carried from its manufacturing site to where it is needed: the mouth and swallowing passages. All salivary glands have a system of ducts, tubes and pipes to allow efficient transportation of saliva. The parotid and submandibular glands are situated a little further from the mouth. They therefore need a longer tube to transport saliva into the mouth. These are called the parotid and submandibular ducts respectively.

Because of its length, the parotid and submandibular ducts are more vulnerable to injury and disease. The superficial and exposed

location of the parotid duct on the face makes them liable to be cut and severed in accidents that involve the face. Similarly, the submandibular duct commonly becomes blocked by calcified stones or calculi. When this happens, saliva from the glands cannot escape, and accumulates under pressure. This can cause pain and swelling in the involved glands.

You May Take A Break, But Your Salivary Glands Don't!

Under condition of rest, as when you are not eating, nor getting excited about food, a baseline level of salivary secretion still occurs. Saliva is always being produced: 24 hours a day. This happens whether you are eating or not. The reason is because saliva is important not only to facilitate efficient chewing and tasting of food, but also to allow proper articulation, avert tooth and mouth infections, and prevent bad-breath.

Saliva is rich in a variety of substances that have anti-bacterial and lubricating actions. The anti-bacterial effect ensures good dental



and oral hygiene. It defends your mouth against unbridled bacterial overgrowth and unrestrained multiplication of pathogens that can make your mouth a repository of infection. Patients with a reduction of salivary flow can experience infections ranging from tooth decay, mouth ulcers, bad breath and even infections, of the parotid and submandibular glands.

Saliva is the lubricant of the mouth and throat. A number

of bodily functions like eating, swallowing, speaking, throat clearing and coughing involve relative movement of structures in the mouth and throat. Saliva reduces friction and stickiness, thus facilitating the smooth glide of these moving parts over one another.

Lack of saliva causes the throat to feel dry, sore, scratchy and uncomfortable. The tongue, lips, cheek and teeth starts to stick to one

another making it difficult to speak, chew or swallow.

During meal times, the salivary glands go into overdrive. Eating does to the salivary glands what exercise would do to the muscles, and thinking for the brain. The act of chewing and tasting food, or even just savouring the thought of an impending delightful meal, creates a very powerful stimulus for the production of saliva. It makes us salivate.

Right Amounts of Saliva for the Right Occasion

How does the salivary glands know how much saliva to produce? The amount of salivary production must of necessity be a finely tuned process. Too little saliva gives rise to the problems mentioned above, while excessive production results in excess saliva drooling from the mouth.

The production of saliva is controlled by the autonomic nervous system. This is the automatic part of the body's complex network of communication. It takes care of bodily functions that do not require conscious thought or volitional control. The brain does not control salivary production directly, but delegates that work to a lower level of the control hierarchy. The autonomic nervous system thus frees the brain of having to individually monitor and react to each and every situation. Controlling the right amounts of saliva to produce is therefore an automatic process with its own monitoring, feedback and control systems.

The sympathetic system is the part of the autonomic nervous system that tells the body how to react to adverse and hostile situations and threats. For this reason, it is commonly also known as the 'fight, fright and flight' system. When the body encounters danger, it sounds the alarms. The sympathetic system stimulates and arouses the heart and muscles to prepare for fight or flight. It mobilises scarce resources like energy and blood away from the less critical organs like the salivary glands and digestive system, and diverts them to the muscles of the arms and legs.

The parasympathetic system on the other hand is the antithesis of the sympathetic system. It relaxes instead of stimulating the heart and muscles. It sends blood to the digestive system instead of diverting them away. It stimulates salivation and digestion. The parasympathetic system prevails during periods of calm, when the source of threat and danger is gone.

The sympathetic system may be likened to a country during times of national

crisis or war. Resources are directed away from peacetime uses towards building up a military capability to ward off potential threats. The parasympathetic system on the other hand is like a country during times of peace, where resources are plentiful and the situation is calm. Efforts may then be directed towards the accumulation of wealth without compromising overall survival.

Both the sympathetic and parasympathetic systems supply the salivary glands. The sympathetic system reduces the production of saliva. This is consistent with the general inhibition of the digestive system. The parasympathetic system stimulates salivary secretion so that it can facilitate 'peace-time' functions such as speech, swallowing and chewing. The opposing actions between the two systems create the balance to fine-tune salivary production appropriate for the purpose at hand.

So the next time you have a meal, sing a karaoke song, or talk to a friend, remember the things about saliva. Without it, life can be miserable. **hd**

Detoxification



BY TINA JENKINS,
NATUROPATH & MASSAGE THERAPIST