

TELEVISION AND HEALTH*

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*For in and out, above, about, below,
'Tis nothing but a magic shadow show
Played in a box whose candle is the sun
Round which we Phantom Figures come and go.*

—Omar Khayyám.

This quotation from *The Rubá'iyát* of Omar Khayyám is as topical today as when it was written in the eleventh century, and the analogy of earthly life to a magic candle lantern epitomises television. We are the phantom figures who come and go, and the television screen symbolises the magic shadow show of today.

The evolution of television from this magic lantern illustrates an amazing series of technical advances, commencing with the camera. This was followed by the cinematograph which projected a continuous moving picture; next came the discovery of radio by Marconi, and finally Baird demonstrated how sound and light waves could be transmitted at the same time. When television first appeared twenty years ago, it was regarded as a 'gimmick'. It has now become an integral part of domestic entertainment. Apart from entertaining, it could instruct the peoples of the world in the 'art of living' and illustrate how they could strengthen their individual moral, mental, physical, and spiritual characters. If these ideas were combined with doctrines of racial, political, and religious tolerance in suitably presented television programmes, they could be a vital contribution to world peace of mind.

Physical Definition of Television

Television is a beam of electrons (β rays) lacking the energy to produce gamma rays which scan the screen of a television tube and follow a pattern of lines. The impingement of these electrons on the screen releases electro-magnetic radiations forming a picture. The frequency of the electro-magnetic field is controlled to include the visible light range, and ultra violet rays, produced simultaneously, are scaled to a required standard to prevent hazard to the observer's

*From the 1960 Butterworth prize winning essay.

health. The radiation effects are non-existent, since any β rays which emerge from the screen, are inactivated by the first inch of air they encounter.

Medical Aspects of Television

The medical requirements for televiewing need to be accurately defined, so that individuals can watch for long periods without affecting their general health. The optimal viewing distance from the screen should be six to ten feet.¹ Televiewing in darkness, with marked contrast between a light screen and a dark room, or viewing a distorted picture will produce oculo-muscular fatigue. The light in the room should be overhead or behind the viewer and not shining on the screen, because this will create glare. This effect when enhanced by long concentration on the image can cause blepharo-conjunctivitis. When an individual is viewing a programme for a long period, the picture should be at eye level or slightly lower in order to prevent the development of a stiff neck. Accommodation fatigue can be avoided by glancing periodically round the room.

A survey involving 5,560 children showed 15.3 per cent of televiewing children, aged ten years or over wore glasses, compared with 13.4 per cent of non-viewers. It was concluded that though television was not directly responsible, myopic tendencies occurring at this age were exaggerated by it.² It is difficult to hold television solely responsible for eye strain, since bad reading habits, poor lighting, and concentration on small print may be contributory factors.³

The chair used for televiewing should be comfortable, adjustable, and provide complete support for the individual, since prolonged sitting in the same position with pressure from the chair seat on the popliteal fossa, or sitting cross legged for long periods, can cause phlebitis, haemorrhoids, or arterial thrombosis in patients with peripheral vascular disease.⁴ Hence the necessity to move around hourly whilst viewing to improve the circulation. Constricting clothing around the groin, such as garters, elastic, or suspenders which restrict the blood flow, should not be worn. An unpadded chair arm will produce constant friction on the elbows and this may cause olecranon bursitis. Awkward sitting positions may contribute to disc lesions or joint stiffening in arthritic, spastic, or hemiplegic patients. "Television legs" is a condition consisting of weakness and athenia of the legs, thought to result from long continued viewing.

When a light flickers repetitively at a fixed rate it can induce cerebral dysrhythmia, a fact made use of in electroencephalographic techniques. The rate of interruption of the light beam in a modern film projector is too high to be detected by the human eye. Light

flickering follows movements on the television screen, and one would expect this to stimulate cerebral dysrhythmia, since television flicker rate comes within a frequency of 50 cycles per second, which can be detected by the human eye. There is apparently no evidence to show that epileptic fits occur more frequently while televiewing; but television does induce light hypnosis and the capacity to develop this trance-like state can be enhanced with repeated viewing, and certain individuals already possess the ability to produce this condition at will.⁵ This is particularly noticeable amongst addictive viewers. When a family is viewed objectively while they are watching a television programme, they appear to be in a state of partial hypnosis and are difficult to rouse. There is a temptation to enhance the soporific effect of television by eating sweets. This may produce obesity.

A new hazard arises from close family contact such as occurred in bygone days when people huddled together to keep warm, leading to an interchange of pathogenic and non-pathogenic organisms as well as corporal parasites.

The writer wishes to emphasize that it is the cumulative effects of televiewing under adverse conditions which are instrumental in precipitating these disorders.

Health reasons for purchasing a television set. People who installed television sets gave the following reasons for their purchase. They considered they would be able to relax with it in their homes, and that boredom and immobility during illness would be alleviated. Aged and single people thought that they could tolerate loneliness, misfortune, or isolation if they had a television set to comfort them. The snobbery of keeping up with the neighbours entered into the choice of prosperous people and it was only a small group who stated that they had acquired a set specifically to entertain their children.⁶

Television and the family health. Three fifths of the English population own television sets. Poor families may buy them at the expense of essential food and clothing. Owing to the limited space in the home, the individual members of the family can be more easily accommodated while televiewing. Children are kept off the streets and thus accidents are prevented. The average child views 11 to 13 hours per week and adults 12½.⁷

The introduction of a second channel made little difference to viewing habits which were virtually unchanged five or more years after a set had been purchased by a family. In America where several channels are available, weekly viewing times range from 16 to 30 hours, averaging roughly 21 to 22 hours. Many different methods were employed to collect these figures, including questionnaire, interview and diary,⁸ and they show that more time is spent on this

pastime in America than in Great Britain, and children spend more time televiewing than with other leisure pursuits.

Normal individuals refuse to allow this medium to interfere with their hobbies and activities, but the less intelligent members of society apparently televise more and this addictive viewing may ultimately lead to their social isolation.⁹

Introducing television into a home had the effect of sharpening parental conflict over their child's bedtime. This resulted in an average bedtime postponement of approximately 20 minutes, but the child spent less time reading and playing before turning out the light. Girls apparently retire to bed earlier than boys, and intelligent children go to bed before the less intelligent.¹⁰

The mean bedtime for 10 to 11 year old viewers was 8.45 p.m. and 9.40 p.m. for 13 to 14 year olds. The children who went to bed late came from families whose children went to bed just as late before the arrival of the television set.¹¹

An American study associated late bedtimes with apathy, inadequate parental control, poor school performance and general behaviour; the late television viewing was part of this pattern but not the cause. There was little empirical evidence relating lack of concentration, listlessness, and poor school performance to television.¹²

When a baby is born into a "television household", it is usually exposed to the set during the first months of life and the changing illumination acts as a pacifier. After the third year, television is a normal part of a child's life and from the age of 10 onwards it is quite common to find children viewing adult programmes.

Increased collective family televiewing often increases tension in the family and may even precipitate conflict, not so much over the choice of programme, as from the close proximity of controversial personalities. Any member of a family who has to work or study ought to have a separate room away from the set since it is more difficult to dissociate oneself from the distracting influence of the set which monopolizes the visual and auditory senses.

Parents who are television addicts can be a serious complication to their children, owing to the paralysis of intelligent conversation; the children may develop this habit by example, and become withdrawn and shy, and as this is a noticeable characteristic already amongst English children, it should not be encouraged.

Effects of television programme content on the health of individuals

Children. Television offers children the opportunity of learning about people and the world and helps them to improve their know-

ledge of social problems and culture. It cultivates new interests for them whilst providing security and reassurance in identifying themselves with familiar situations, but they tend to utilize this ready-made entertainment at the expense of creating their own amusements. When children view adult programmes they are in a position to indulge scopophilial desires and this may stimulate premature adolescence and provide a keyhole to aspects of everyday adult life which a child should not be observing at an early age. A child's liking for a given programme indicates his sexual, emotional, and intellectual maturity as well as his idiosyncratic needs. Tension and anxiety evoked in these imaginary situations can be very disturbing to young children. Normal children will not be perplexed by these happenings but the immature and sensitive require parental reassurance.

Children do not appear to be overstimulated by television or to have their sleep disturbed, although difficulties in falling asleep and nightmares may occur after an exciting or frightening programme. Freda Lingstrom, head of B.B.C.'s children's television, emphasizes the necessity for peaceful programmes prior to bedtime.

The children who are adversely affected by television are the same children who would be influenced by other mass media, cinema or theatre.¹³ Supervision of viewing is essential to spare children as much of this unnecessary emotional turmoil as possible. The reality of television programmes is heightened when viewed in the dark, and this can provoke childish fear when the programme content is frightening. Verbal acts of aggression stimulate as much childish emotional conflict as physical violence and when we consider Pavlovian principles, constant conditioning by programmes containing sex cruelty and conflict repeatedly presented could induce atavistic behaviour in children.

Adolescents. Adolescent girls are preoccupied with programmes concerned with growing up and marrying. They are more easily disturbed by programme content and readily admit to being afraid. Television reinforces their adolescent feelings of insecurity by failing to provide them with reassuring models. Female characters of this age group are often portrayed as unhappy girls dominated by events beyond their control.

Excessive viewing at this, or any age, indicates emotional insecurity and the adolescent masturbation phantasies are often associated with day-dreaming; this linkage seeks expression in addictive televiewing. Boys, in contrast to girls, prefer watching "Westerns", detective fiction, adventure plays, and sport. They choose to identify themselves with their masculine heroes whose personalities they introject

during the phase of super-ego development.

It is unfortunate that adolescents are presented so frequently in television plays as “crazy mixed up kids”, giving a false impression to adults as well as to the adolescents. True sets of values and ideals relevant to every age group should be constantly shown, as a contrast to the false ones, to reassure young people. Normal intelligent adolescents will not allow television to dominate their lives and leisure, they seek their social contacts outside the home.

Adults. It is difficult to be emotionally detached from a new medium in the home unless one has grown up with it from childhood—this probably accounts for one sixth of the adult televiewing community being television addicts.¹⁴ Television addiction in the husband is more destructive to marital happiness than the reverse. Women viewers resent the diminution of their social lives, whilst men regret abandoning their hobbies, but one serious defect of adult televiewing is the paralysis of social intercourse so necessary for resolving everyday mental conflicts. If a large amount of time is spent watching the screen, then when the programme is over, the adults in the family feel too tired to have any intelligent conversation and depart to bed.

Some adults feel afraid of television, it is as though they were being influenced by it in a subtle way beyond their control, particularly people who are readily suggestible. This condition appears in its most extreme form with the paranoid personality who forms delusional material from his hallucinatory experiences. The mechanistic menace of today in these schizophrenic delusions is television. This has superseded radio, which was the influencing machine of yesterday.

Television has a sedative rather than a stimulating effect on most adults and it is referred to in current literature as the mechanical tranquilliser from the mild hypnotic effect which it induces while televiewing. Many young adults appear to be drinking less, and television is believed to have contributed to this.¹⁵

The size of the television screen limits the emotional response of the adult audience, but in the future, with larger than life screens, anxiety may result from domination by the television image in the home.

Many of the present-day plays on television, stress the wrong principles, for example, self-confidence and toughness are represented as essential for success, without the accompaniment of goodness of character which one expects. Women seem to have difficult lives and they appear to derive little pleasure from domesticity; their marriages are often unhappy with strained relationships between

the partners. Parents are frequently shown in conflict with their children. Cardinal virtues go unrewarded and violence is shown as an integral part of life and often resorted to by good decent people. In spite of these features there is a large following for one of the most popular of these programmes concerned with medicosocial issues, "Emergency Ward 10", which illustrates the interest which the public have in health matters¹⁶ especially when dramatically enhanced.

Television scriptwriters should bring home important health messages to the public but they must remember that unresolved mental or physical conflict and emotionally disturbing material have as bad an effect on the minds of adults as children. There should be a special system of monitoring to guide viewers regarding these programmes. A censorship exists for the cinema and theatre and this should be extended to television by creating a specific television medical advisory panel to uphold normal healthy standards of mental hygiene and morality.

Television and medical advertising

It seems incredible that one and a half million pounds was spent over three months, between October and December 1958, on medical advertising alone.¹⁷ This excluded tooth paste and cosmetics but included hair treatment and oil, and the knowledge that medical advertising by television appeals to hypochondriacal tendencies indicates that it needs to be strictly controlled. It is remarkable how people unwisely will take large quantities of drugs alleged to slim or rejuvenate them. A medical code should stress that a drug does not cure unless it has been medically proven to do so, nor should drugs be recommended which only a doctor can prescribe. Medical advertisements which appeal to fear or falsely promote claims of virility or ability to retard ageing should be forbidden and diagnosis or treatment relating to the advertisement should not be conducted by correspondence.

These points must be strictly upheld to protect the public.

Personal Experience of Television and Medicine in General Practice

During the past year in my practice I made observations concerning patients who specifically mentioned television in connection with their illnesses, and recorded the following four cases.

Case 1. A girl aged 8 was brought to me by her mother on account of her inability to breathe after viewing a fictional programme concerned with space men. The mother had arrived home to find her child in a chair, paralysed with fear, and when the set was switched off she complained she could not breathe. There had been no previous history of asthmatic tendencies and although the attacks occurred for the next month, the condition subsided with antispasmodics, a mild sedative, and reassurance. She has remained free of asthmatic spasm for the past 9 months.

Case 2. The second problem concerned a boy of 4 who was having nocturnal screaming attacks and walking in his sleep. The parents spontaneously offered the information that the condition appeared to be made worse after televiewing an exciting programme. They decided to get rid of the set and the child's behaviour problem completely subsided.

Case 3. The third case was a housewife of 45 years, who developed pseudo-anginal symptoms after televiewing a programme dealing with coronary artery disease. She was a particularly excitable and suggestible person and accurately described her symptoms with reference to the particular programme and how they had occurred immediately after it was finished. All hospital investigations were negative, including electrocardiograph, x ray, blood sedimentation rate, and serum transaminase. She felt calmer when she knew these investigations were normal and has remained free of symptoms since.

Case 4. The final case concerned a housewife of 33 years who had seen a programme about obsessional neurosis and indentified herself with the subject under discussion. This did not perplex her; if anything, she was reassured to find that there were other people in the same predicament as herself, and whereas she had been hesitant in discussing her problem with a doctor, she now wanted to be certain that she was not going mental. She soon realized that her obsessional traits were advantageously linked to an integrated personality and was able to laugh at them.

These cases illustrate the effect of television material on suggestible viewers. This hypochondriacal reaction is often experienced by medical students when first commencing pathological studies, and is due to their lack of experience.

These four cases occurred in a practice population of 6,000 patients and represent an incidence of .06 per cent. Two of these patients were emotionally unstable (cases 1 and 3).

Conclusion

The future use of television in every branch of medicine will be a great and stimulating challenge. It is a valuable medium with an important role to play in health matters. This essay ends with a word of warning regarding domestic television programmes, they should endeavour to present the best in human behaviour and relationships to be an example to the community.

A quotation from the *Maxims* of La Rochefoucauld regarding his views on human example in everyday life could be appropriately applied to human example presented on television.

Nothing is so contagious as example, and our every really good or bad action, inspires a similar one. We imitate good deeds through emulation and evil ones because of the evil of our nature which, having been held in check by same, is now set free by example.
La Rochefoucauld.

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When I send a patient for Chest X-ray. D. G. FRENCH, M.D. *The Chest and Heart Bulletin* (June 1961) 24, 87.

Dr French classifies the patients he sends for chest x-ray into those where the doctor needs the additional help given by the investigation to elucidate the diagnosis, and those where the patient makes the request. At one time, nearly all chest x-rays were done for the diagnosis of tuberculosis, and often not until the disease was evident to the stethoscope. Now the doctor sends suspected cases of chronic bronchitis, possibly due to dusty work, or haemoptysis, or cardiac lesions. There are also occasional cases of unresolved pneumonia, spontaneous pneumothorax, unexplained weight loss, neuropathy or bone disease.

The patient sometimes makes his request for an x-ray because he thinks his chronic bronchitis symptoms may be due to dust, and he feels that he should be entitled to compensation if this can be proved.

Dr French stresses the importance of early diagnosis, and the need to be guarded if the result of an x-ray is negative.

The General Practitioner and Research. C. G. LEAROYD, M.R.C.S., L.R.C.P. *The Practitioner* (July 1961) 187, 79.

Dr Learoyd puts forward a number of interesting theories about leukaemia and malignancy, the history-taking of an experienced general practitioner, rheumatisms, cardiovascular disease, infectious disease, and psychology. He poses some interesting and provocative questions and concludes that the need for some central authority to correlate general-practitioner ideas on research will perhaps be fulfilled by the College of General Practitioners.