

**North Somerset
Aim Higher Partnership**

**Critical Skills Conference
Resource Pack**

*Friday 22 April 2005
1.15pm – 5.30pm*

**Prince Consort Suite
Winter Gardens
Weston-super-Mare**

Led by

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Resource 1

The popularity of the prophecies of Nostradamus shows no signs of declining. But it is something that we should regret. Many of the prophecies require that we do a lot of generous interpretation to make them work. (For example his apparent prophecy of the attack on the World Trade Centre requires us to see the ‘seventh month’ of ‘1999’ as meaning September 2001, and ‘the great new city’ ‘at forty-five degrees’ as being New York, though its latitude is at forty degrees.) It is obvious that the need for such interpretation means that people just make the prophecies fit with events that have already happened. In this way, the prophecies will always come true.

Which of the following is the best statement of the **main conclusion** of the above argument?

- (A) The prophecies of Nostradamus can all be shown to be true.
- (B) The prophecies of Nostradamus are as popular as ever.
- (C) The continued popularity of the prophecies of Nostradamus is not to be welcomed.
- (D) People just make the prophecies of Nostradamus fit with what has already happened.
- (E) Many of the prophecies of Nostradamus have to be interpreted generously for them to appear to predict the future.

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Resource 2

It used to be said that ‘the camera never lies’ because photographers record only what is ‘there’. Recent revelations of doctored photographs have challenged this. The well-publicised reduction of Kate Winslet’s legs for a magazine cover photograph is a good example. But the practice of changing reality in photographs is an old one. Abraham Lincoln, US President 1861-1865, had his image adjusted to make his neck look less scraggy. In the Soviet Union of the 1920s and 1930s, people who fell out of favour were removed from photographs. The technology for altering images is now so advanced that we could create a photograph of anybody doing anything with anyone. When you read of ‘irrefutable photographic evidence’ be concerned. Even if cameras don’t lie, photographs often do.

Which of the following is the best statement of the **main conclusion** of the above argument?

- (A) Photographs are often distortions of reality.
- (B) Technology enables us to create photographs that could show anything.
- (C) The practice of altering reality in photographs has been carried out for a long time.
- (D) Recent examples of doctored photographs have made us realise that the camera sometimes lies.
- (E) We should be troubled by the claim that there is ‘irrefutable photographic evidence’ of something.

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Resource 3

Fairy stories have recently been criticised for giving the wrong messages to young girls, by showing that beautiful young women always succeed (for example, Cinderella and Snow White), whereas ugly people always, in the end, fail (examples, as before). But this criticism underestimates the value of fairy stories in children’s lives. This value is considerable. Physical beauty cannot be ignored as a contributor to success in people’s lives. Young girls can use the princesses of the stories to explore what it’s like to be the heroine or central character of a story. Both boys and girls need to have happy endings in their stories in order to give them hope that things will work out alright. Children need fantasy in order to stimulate their imagination.

Which of the following is the best statement of the **main conclusion** of the above argument?

- (A) Children need fantasy in order to stimulate their imagination.
- (B) There is considerable value in fairy stories for children.
- (C) Fairy stories do not give the wrong message to young girls.
- (D) The critics of fairy stories do not consider the value of such stories for children.
- (E) Both boys and girls need fairy stories to give them hope that things will be alright.

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Resource 4

Nicotine is associated in people’s minds with smoking tobacco. Because of this, it is seen as something that is to be avoided. It should, however, be seen as something that has considerable medical value. It has been shown to be beneficial in the treatment of various physical and mental illnesses, including bowel disorders and schizophrenia. Smokers inhale nicotine along with 3000 or so other chemicals, so this problem of taking it in a safe form needs solving. For both smokers and non-smokers, what are called ‘clean nicotine inhalers’ need to be developed. A huge contribution to public health could follow. Even if nicotine can be addictive, this problem isn’t serious enough to outweigh the major health benefits of its use.

Which of the following is the best statement of the **main conclusion** of the above argument?

- (A) ‘Clean nicotine inhalers’ should be developed for both smokers and non-smokers.
- (B) The problem of taking nicotine in a safe form needs solving.
- (C) Nicotine should be seen as something that has considerable medical value.
- (D) A huge contribution to public health could follow the development of ‘clean nicotine inhalers’.
- (E) The problem of nicotine addiction should not be seen as serious enough to stop the development of ‘clean nicotine inhalers’.

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Resource 5

Poisons are, by definition, seen as things to avoid. But there is some evidence that poisons can in small doses actually be good for us. For example, minute doses of dioxins (a significant environmental poison) can cut the rates of certain cancers; radiation can make some insects and rodents live longer (and, significantly, nuclear power workers have lower rates for some cancers than the general population). Perhaps the most obvious example is that of sunshine. In large doses it can cause skin cancer; in low doses it is vital for the production of Vitamin D. We tend to worry that our environment is polluted by various poisons, including weedkillers and industrial chemicals. Given this evidence on poisons, we no longer need to worry.

Which of the following is an underlying **assumption** of the above argument?

- (A) Our environment is polluted by low levels of various poisons.
- (B) Weedkillers and industrial chemicals are not a problem for our health.
- (C) Our health will suffer if we are not exposed to small doses of poisons.
- (D) Previous reports on the danger of exposure to poisons are incorrect.
- (E) For the sake of our health, we should ensure that environmental pollution is not cleared up.

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Resource 6

It is widely assumed that optimists have qualities which pessimists should try to acquire. The importance of ‘the power of positive thinking’ is often being stressed. However, a recent study of 1200 men and women who were rated in 1922 for their optimism or pessimism has found that those rated as optimistic/cheerful/having a sense of humour died earlier than those who were not. The explanation is simple. Because they have to live with negative emotions, pessimists are better placed to deal with bad experiences (rather than the optimists who always blame others or bad luck). It is this ability to cope with the world which explains why pessimists live longer than optimists.

Which of the following, if true, **most weakens** the above argument?

- (A) Optimists cannot be taught to be pessimistic.
- (B) Most people are not optimistic or pessimistic all of the time.
- (C) Optimists are more likely than pessimists to engage in risk-taking.
- (D) Pessimists are much more realistic than optimists about their weaknesses.
- (E) Pessimists are more likely than optimists to worry about ill-health.

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Resource 7

Fishing in the deep waters of the Atlantic Ocean is creating an environmental disaster. The trawlers that fish these waters use vast nets which trail up to 1500 metres down and measure 50 metres across. Nothing can escape these nets, such that after only ten years, many species of deep-sea fish are close to extinction. Deep-sea species often do not start breeding until they are about twenty years old, so that the breeding stock is being wiped out. Such exotic fish as the orange roughy and the blue ling, for millions of years undisturbed in the ocean, could now disappear for ever. Steps need to be taken to ban such deep-sea fishing.

Which one of the following, if true, most **strengthens** the above argument?

- (A) There is an increasing market for the deep-sea species of the Atlantic.
- (B) Stocks of some species of fish in the shallower waters of the North Sea are very low.
- (C) Modern fishing techniques such as using sonar to detect fish shoals make it easy for deep-sea fish to be caught.
- (D) The Norwegian Government has banned all Norwegian trawlers from fishing for the deep-sea species in the Atlantic.
- (E) The Atlantic's extensive reefs of cold-water coral are smashed by the heavy attachments to the nets used in deep-sea fishing.

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Resource 8

The average weight of a horse’s heart is 4.2 kilograms. But the average weight of the hearts of very successful racehorses is considerably more. For example, a past champion racehorse had a heart weighing 6.25 kilograms. In a study of 400 racehorses, their heart size was measured by an ultrasound scanner, and then the size was compared with their racing ‘form’ (their performance in races). Quite simply, successful horses were shown to have bigger hearts. People who are buying racehorses do not at present have the information about heart size at their disposal. So ultrasound scanning of horses’ hearts should be carried out in order that more informed decisions can be made about which horses to buy.

Which of the following is the best statement of the **flaw** in the above argument?

- (A) Not all horses with large hearts are successful racehorses.
- (B) An example of a past champion racehorse is insufficient evidence about all racehorses.
- (C) The ‘form’ of racehorses is affected by the skills of the jockeys that ride them.
- (D) Intense training of racehorses could result in their having bigger hearts.
- (E) The success of a racehorse cannot always be predicted when they are young.

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Resource 9

Overhead power lines have been blamed for a variety of conditions including miscarriage, depression, and brain tumours. It is the electromagnetic field (EMF) that is created by the power lines that is seen as the cause of the problem. But it needs to be remembered that power lines are not the only source of EMFs. Mobile phone masts are another source. However, so are everyday electrical appliances. For example, it is generally not appreciated that a hairdryer creates an EMF which is twenty-five times as large as that affecting someone standing directly under an overhead power line. Given that we are happy to live with the health risks from our household appliances, we should stop worrying about the risks to people living under or near power lines.

Which of the following is the best statement of the **flaw** in the above argument?

- (A) The author gives only one example of an electrical appliance which creates an EMF.
- (B) The author fails to show why EMFs cannot be blamed for conditions such as miscarriage and depression.
- (C) The author fails to show that the EMFs from mobile phone masts are not a significant health problem.
- (D) The author fails to consider differences in the length of time of exposure to EMFs from different sources.
- (E) The author ignores the differences in numbers involved between those using electrical appliances and those living near to and under power lines.

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Resource 10

We are often surprised by what appear to be almost impossible coincidences. But this is a big world. In the UK alone, there are 59 million people. So, each day ‘one million to one chances’ will happen to fifty-nine of us. We should also realise that coincidental patterns that seem meaningful to us are not meaningful at all. A good example is the apparently ‘spooky’ set of coincidences surrounding the attack on the World Trade Centre. The date was 9/11, which can be unravelled as $9+1+1=11$; American Airlines Flight 11 with 92 people ($9+2=11$) on board was the first to hit the twin towers (shaped as 11). There are many other such 9/11 coincidences, but that is all they are (after all, the second plane involved was Flight 175).

Which of the following is a **conclusion that can be drawn** from the above passage?

- (A) Impossible coincidences happen every day.
- (B) What we see as unlikely coincidences are normally neither impossible nor meaningful.
- (C) The probability of anything happening is higher than we normally predict.
- (D) Meaningful patterns of events are less common than those which are meaningless.
- (E) The attack on the World Trade Centre was nothing but part of a set of coincidences.

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Resource 12

It used to be thought that a dog's genetic make-up determined its behaviour, such that certain breeds were more likely to be aggressive than others. However, recent evidence throws considerable doubt upon this explanation. The evidence comes from a study of over 300 cocker spaniels and their owners. This showed that owners of highly aggressive dogs were more likely to be tense, emotionally unstable, shy, and undisciplined than owners of dogs which were low in aggression. The dogs' aggression must be a response to their owner's anxieties and neuroses. In that the personality of a dog's owner has been shown to be the key to the dog's behaviour, we should abandon the various attempts to define dangerous breeds of dogs.

Which one of the following is an assumption of the above argument?

- (A) Aggressive dogs can be easily trained to be non-aggressive.
- (B) Some breeds of dogs have higher levels of aggression than others.
- (C) People who are shy and emotionally unstable are likely to prefer aggressive dogs.
- (D) Evidence on the behaviour of cocker spaniels is relevant to other breeds of dogs.
- (E) People who are tense and shy should choose breeds other than cocker spaniels.

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Resource 17

TAKING DANGEROUS PICTURES

The use of speed cameras is justified on the grounds that, since 'speed kills', anything that will discourage drivers from speeding must be a good thing. However, the belief that speed in itself is a significant problem needs examination. Excessive speed is found to be a contributory cause in only 10% of accidents. Included in this 10% are accidents caused by drivers who have no regard for speed limits, such as joy-riders. Furthermore, evidence from Canada shows that two-thirds of the 10% of speed-related accidents occurred when the driver was actually below the speed limit, although driving too fast for the road conditions at the time. Clearly, speed in itself is not a significant problem.

Modern cars and increasingly good roads make speed limits as such largely unjustifiable. Good drivers can be trusted to drive at appropriate speeds, knowing that their cars with very effective braking systems and sophisticated safety systems will protect them from danger. There are many safe roads in the UK, roads designed for a lot of fast-moving traffic. They have low accident rates, yet there are 73 speed cameras on the fifty safest stretches of road in Britain, and only 18 on the fifty most dangerous. Why? Because drivers are more likely to break speed limits on safe roads. So these cameras will generate more money in fines.

It is not as if the cameras deter people from speeding. In 2001, there were 1 million offenders caught on camera; in 2002, 1.5 million; in 2003, 2 million; in 2004, it is estimated that there will be 3 million offences.

So, apart from increasing government revenue (each offence is fined £60), what do the cameras achieve? Significantly, they do not lead to a reduction in road deaths. From 1950 to 1993, there was a steady reduction in road deaths. But from 1994, there has not been this annual reduction. Given the introduction of speed cameras during the last ten years, we would have expected to see a *greater* than usual reduction, not its disappearance.

The only police chief in the country who refuses to use speed cameras is that of County Durham. He uses traffic patrols instead and can boast an accident rate which is 34% below the national average. This issue of the use of traffic patrols rather than speed cameras is an important one. Speed cameras do not register incidents of dangerous driving; speed cameras do not catch drink-drivers. The traffic patrols - which do - will make a much greater contribution to road safety.

48% of motorists say that they would never report anyone for vandalising a speed camera. This statistic shows the strength of public hostility to this ill-judged experiment. Before speed cameras were introduced, Britain's roads were the safest in Europe. Now they're not. The blame is put on various things. The use of mobile phones whilst driving is one of them. But it cannot be. Very few deaths have been linked to mobile phones in this country, and why have Germany and France not seen a similar deterioration in their fatal accident rate? (And mobile phones have been around since the 1980s.) Other factors (such as 'boy racers') have been suggested, but none can explain the post-1993 deterioration in fatal road accidents. Except something that fits the timescale exactly: speed cameras.

Drivers who are constantly having to worry about whether they are going to be caught by a speed camera are going to be distracted from concentrating on safe driving. In addition, driver concentration falls when driving at lower speeds, because drivers tend to think there are fewer risks. It is clear that, for the sake of road safety, this experiment in photographic policing should be abandoned immediately.

