

DOWNLOAD PDF 1981 THE SECOND STAGE, THIS CURIOSITY WAS THEN REINFORCED BY THE WORK

Chapter 1 : Mars Science Laboratory - Wikipedia

First published in , The Second Stage is eerily prescient and timely, a reminder that much of what is called new thinking in feminism has been eloquently observed and argued before.

The shadow of Curiosity and Aeolis Mons "Mount Sharp" The general analysis strategy begins with high resolution cameras to look for features of interest. If that signature intrigues, the rover will use its long arm to swing over a microscope and an X-ray spectrometer to take a closer look. If the specimen warrants further analysis, Curiosity can drill into the boulder and deliver a powdered sample to either the SAM or the CheMin analytical laboratories inside the rover. This device can irradiate samples with alpha particles and map the spectra of X-rays that are re-emitted for determining the elemental composition of samples. The SAM instrument suite will analyze organics and gases from both atmospheric and solid samples. This instrument was the first of ten MSL instruments to be turned on. Turned on after launch, it recorded several radiation spikes caused by the Sun. A pulsed neutron source and detector for measuring hydrogen or ice and water at or near the Martian surface. Meteorological package and an ultraviolet sensor provided by Spain and Finland. Curiosity has seventeen cameras overall. This system provides multiple spectra and true-color imaging with two cameras. This system consists of a camera mounted to a robotic arm on the rover, used to acquire microscopic images of rock and soil. It has white and ultraviolet LEDs for illumination. Images were taken 4 times per second, starting shortly before heatshield separation at 3. This provided engineering information about both the motion of the rover during the descent process, and science information about the terrain immediately surrounding the rover. There are 12 additional cameras that support mobility: Hazard avoidance cameras Hazcams: The rover has a pair of black and white navigation cameras Hazcams located on each of its four corners. The rover uses two pairs of black and white navigation cameras mounted on the mast to support ground navigation. In the attempts to meet the launch date, several instruments and a cache for samples were removed and other instruments and cameras were simplified to simplify testing and integration of the rover. The name had been submitted in an essay contest by Clara Ma, a then sixth-grader from Kansas. We have become explorers and scientists with our need to ask questions and to wonder. Six senior members of the Curiosity team presented a news conference a few hours after landing, they were: A primary goal when selecting the landing site was to identify a particular geologic environment, or set of environments, that would support microbial life. Planners looked for a site that could contribute to a wide variety of possible science objectives. They preferred a landing site with both morphologic and mineralogical evidence for past water. Furthermore, a site with spectra indicating multiple hydrated minerals was preferred; clay minerals and sulfate salts would constitute a rich site. Hematite , other iron oxides , sulfate minerals, silicate minerals , silica , and possibly chloride minerals were suggested as possible substrates for fossil preservation. Indeed, all are known to facilitate the preservation of fossil morphologies and molecules on Earth.

Chapter 2 : Watching Adults Work Hard Makes Babies More Persistent

From her first exploring of the "second stage," reinforced by many hundreds of interviews and conversations across the nation, the new book evolved. She sighed and got up to go off to an appointment for which she was late.

Primary Prevention of Child Sexual Abuse: Child sexual abuse prevention programs have traditionally directed efforts at children. However, sound prevention efforts may eventually depend more on programs aimed at adults. Alternative approaches based upon the etiology and the sustaining and maintaining factors of abuse are discussed. Such programs may include education about normal sexual development, efforts to increase the inhibitions against abuse for potential abusers, and therapeutic interventions for adults who are sexually aroused by children. Outside of recognizing the need for such programs, however, there has been little effort to outline what form such alternative prevention efforts should take. Sound prevention programming is based upon a theory of the etiology and the sustaining and maintaining factors for the condition to be prevented Bickman, ; Morell, ; Rappaport, Finkelhor claims that sexual abuse results from a perpetrator sequentially overcoming each of four obstacles to the sexually abusive act. For an act of sexual abuse to occur four preconditions must be met: Finkelhor suggests that child sexual abuse may be prevented by intervening in any one of these four preconditions. Consequently, from the perspective of this model, prevention efforts have been narrowly focused. Indeed, absent the motivation to sexually abuse a child, none of the other preconditions serve any purpose. On the other hand, the sequential approach inherent in the Four Preconditions Model ignores the relative weight the perpetrator may give to internal and external inhibitions. Sexual abuse may be viewed as a phenomena which occurs at the intersection of two continua. The first continuum describes the degree of motivation to sexually abuse a child. What is more important than the sequential progression of overcoming each of the preconditions or inhibitions is the cumulative effect of the inhibitions. Prevention efforts then, can aim at increasing the strength of the inhibitory factors or decreasing the strength of the motivational factor. Since the current literature deals extensively with the issue of sexual abuse prevention programs directed at children, such programs will not be considered here. Rather, alternative approaches to the prevention of child sexual abuse through the enhancement of inhibitory factors will be discussed along with an analysis of the etiology of sexual attraction to children and approaches to preventing the development of motivation to sexually abuse a child. Alternative Approaches to Enhancement of Internal Inhibitors The inhibitory factors may be broken into internal and external inhibitors as described by Finkelhor There is evidence that sexual abusers rationalize their conduct and attempt to provide justification for their sexual activity with children de Young, e. For some perpetrators then, direct assault upon their rationalizations may be necessary. For others who recognize the inappropriateness of their behavior but are nevertheless unable to control it, additional interventions are needed. One such approach which would be relatively inexpensive to implement would be to publicize the use of sexual abuse prevention programs in schools Krivacska, in press-b. Publication of this may inhibit perpetrators who might now fear disclosures. Parent education forums on child sexual abuse may also increase internal inhibitions if any perpetrators or potential perpetrators are in the audience. Open discussion of the potential effects of sexual abuse on children and their families, as well as the increased likelihood of disclosure and subsequent apprehension, may raise internal inhibitions. Public advertising may also serve an important role. Figures 1 through 4 illustrate public campaign ads Child Abuse Information Center, designed to educate perpetrators and potential perpetrators about the effects of sexual abuse, to warn them of the potential consequences if and when they are discovered and to urge them to seek confidential professional help. Such ads may again confront perpetrators with their rationalizations as well as increase their realization of the dangers of discovery. As illustrated in the sample ads in Figures 1 through 4, such campaigns may stress that children cannot consent to sexual activity, that such activity is inappropriate and may lead to psychological trauma, and that the consequences to the abuser, if caught, would be substantial. Such campaigns should also include information about where abusers might get

help for their problem. Public schools may also promote internal inhibitions against sexual abuse by incorporating into courses on Human Sexuality a discussion of sexual abuse, its potential effects, and the need for anyone who may be experiencing sexual attraction to children to seek out and obtain confidential counseling. Given that sexual attraction to children typically arises first in adolescence, this may be the most appropriate time to begin this type of preventive instruction. Helfer and Holmes both describe programs directed at teens which have as one of their goals reduction of the likelihood that the teens will become sexual abusers. Alternative Approaches to Enhancement of External Inhibitors A number of efforts may increase external inhibitors of sexual abuse. External inhibitors stop sexual abuse through environmental constraints upon the act Finkelhor, The presence of another person who might witness the act, the lack of private time with the child, or the likelihood of discovery are all examples of external inhibitors. Perhaps more important than the mere presence of the external inhibitor is its perception by the perpetrator. What many might view as a powerful external inhibitor against abuse e. Thus, attempts must be made to increase not only the real levels of external inhibitors but also the perception of those inhibitors by perpetrators. One approach which is becoming popular in several states is the introduction of safeguards or precautions in the hiring, recruiting, and supervision of paid and volunteer staff by state agencies and institutions which service children. New Jersey, for example, requires criminal background checks for sexual offenses for all employees of public schools who come into contact with children. Therefore, those who have a previous known history of sexual contact with children are precluded from situations in which abuse is most likely to occur. Buildings in which children are housed may be surveyed to identify structural features of the building which may promote sexual abuse. For example, rooms which are totally windowless and which can be locked from the inside should be modified Holmes, , and policies which protect both students and staff from sexual abuse or false allegations instituted e. Such parent education may include discussions of normal childhood sexuality and how to talk to children about sex. Parents who can openly and appropriately discuss sex with their children will undermine the secrecy, mystery and confusion which maintains the secrecy of the sexually abusive relationship. Parent training may also include discussions of what child sexual abuse is, what its impact on a child might be, and how parents may prevent it as well as respond if their child is abused. The selection of babysitters, choice of day care centers, and how to evaluate child-adult relationships in which a child may be involved may also be presented. Such educational efforts, however, must not promote unhealthy over-cautiousness or suspiciousness. Rather, such training would help parents recognize situations which require further investigation. Thus, parents might be taught how to respond if they find their child suddenly reluctant to be alone with a particular babysitter, or a previously valued adult. Parents would be encouraged not to immediately conclude that sexual abuse caused the behavior change, but rather to recognize that this is one of several possibilities. If abuse is uncovered, the parents need to understand how their reactions will affect their child and learn how to minimize the harmful effects of the abuse. Related to this is the problem of adult response to abuse disclosures. Negative consequences are frequently associated with disclosure of sexual abuse. Most sexual abuse cases are handled through the criminal justice system, which increases the stress placed upon a child and family, and which may result in additional social consequences of disclosure. Berrick , for example, described some comments by parents who were asked how they would respond if they discovered a neighborhood child had been sexually abused: In fact, a perpetrator may threaten these outcomes to sustain the abuse suggesting to the child that the child would not be believed or that the child would be taken from home and that everyone would find out about it. Responses to child sexual abuse cases should both recognize the rights of the accused and reduce the traumatic impact of a disclosure. Professionals responsible for responding to and treating sexually abused children must also recognize that not all abuse is traumatic or damaging. They must be careful not to promote psychological iatrogenesis through their presumption of trauma Besharov. But his theory does not adequately explain how motivation to sexually abuse a child develops. To find the answer to this question, we must turn to the research on paraphilias and the development of sexual deviations. John Money, Director of the Psychohormonal Research Unit of John Hopkins University

and Hospital has developed a theory of sexual development which describes how normal sexueroetic functioning as well as how pathological sexueroetic functioning may evolve. Childhood is a critical period for the development of a normal and healthy sexuality. For Money the lovemap is a template upon which is designed the image of the idealized lover as well as the form and expression by which the child, as an adult, will manifest a romantic and erotic relationship with that lover. Stored during childhood, the lovemap is first manifested in the dreams and fantasies of adolescence, then reinforced during adolescence through masturbation, and eventually fully emerges in adulthood through the actions, feelings and behaviors with the love partner. Recognition and acceptance of childhood sexuality and its expression enhances the development of lovemaps in a manner not unlike how promotion of language development in the young child results in the normal development of language capability. As a fundamental developmental process, lovemap formation may be distorted or damaged by virtue of adult reactions to childhood sexual explorations and feelings. Under optimum conditions, prenatally and postnatally, a lovemap differentiates as heterosexual. Age-concordant, gender-different, sexueroetic rehearsal play in infancy and childhood is prerequisite to healthy, heterosexual lovemap formation. Deprivation and neglect of such play, may induce pathology of lovemap function, as also may prohibition, prevention and abusive punishment and discipline. Conversely, exposure too abruptly to socially tabooed expressions of sexual-eroticism may traumatize lovemap formation. Lovemap pathology manifests itself in full after puberty. The three categories of pathology are hypophilia also referred to as sexual dysfunction, hyperphilia erotomania, and paraphilia legally known as perversion. In all three there is a cleavage between love and lust in the design of the lovemap. In hypophilia, the cleavage is such that lust is dysfunctional and infrequently used, whereas love and love-bonding are intact. In hyperphilia, lust displaces love and love-bonding, and the genitalia function in the service of lust alone, typically with a plurality of partners, and with compulsive frequency. In paraphilia, love and love-bonding are compromised because the genitalia continue to function in the service of lust, but according to the specifications of a vandalized and redesigned lovemap Money, , p. According to Money, pedophilia i. As a prerequisite to eroto-sexual arousal and orgasm, the image or actual eroto-sexual activity of a prepubescent child is required for the pedophile. For example, pedophilia may develop from a childhood experience such as a child being discovered by a parent, masturbating with one of his friends, and being subsequently severely punished for this normal expression of childhood sexual curiosity. The images associated with that contact may become imprinted in the lovemap because of the salience of the adult response, and re-emerge during adolescent masturbatory fantasies where they are reinforced and strengthened. There is considerable support for the universality of childhood sexuality. Such efforts may be divided into two approaches. First, one may intervene with adults who are currently manifesting sexual arousal patterns towards children. Second, efforts may be directed at children to prevent the later development of abnormal sexual arousal patterns. The latter includes education of parents, teachers, and adults in general as to the existence of childhood sexuality, and the normalcy of childhood behaviors such as masturbation, mutual masturbation, viewing of the genitals of other children, exhibitionism, and consensual genital sex play with same-aged children. Parents can be encouraged to give their children age appropriate sexuality education including teaching children about the sexual parts of their bodies, their functions, and the normalcy of feelings associated with sexuality Bernstein, ; Kenny, ; Krivacska, in press-b; Money, Efforts at encouraging the development of a healthy and normal sexuality in children and adolescence will not bear fruit relative to the prevention of child sexual abuse for a generation. Of immediate concern is the presence of adults who are currently motivated to sexually abuse children and what to do to reduce the likelihood of such individuals acting on their inclinations. Described earlier were approaches to increasing internal and external inhibitions, including suggestions that these individuals seek counseling. Numerous approaches to the treatment of pedophilia have been attempted. However, traditionally, such treatments have been imposed upon individuals who have been apprehended and incarcerated for repeated sexual encounters with children. This group may represent a biased sample in terms of the severity or intensity of eroto-sexual response to children. Additionally, other personality factors may increase the likelihood of these individuals being apprehended, but

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which may decrease the potential for treatment effectiveness. Efforts at successful treatment models, both drug and non-drug, must be increased so as to provide treatment options.

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Chapter 3 : The Second Stage – Betty Friedan | Harvard University Press

Get this from a library! The second stage. [Betty Friedan] -- Warning the women's movement against dissolving into factionalism, male-bashing, and preoccupation with sexual and identity politics rather than bottom-line political and economic inequalities.

NOW lobbied for enforcement of Title VII of the Civil Rights Act of 1964 and the Equal Pay Act of 1963, the first two major legislative victories of the movement, and forced the Equal Employment Opportunity Commission to stop ignoring, and start treating with dignity and urgency, claims filed involving sex discrimination. They successfully campaigned for a Executive Order extending the same affirmative action granted to blacks to women, and for a EEOC decision ruling illegal sex-segregated help want ads, later upheld by the Supreme Court. NOW was vocal in support of the legalization of abortion, an issue that divided some feminists. Also divisive in the 1970s among women was the Equal Rights Amendment, which NOW fully endorsed; by the 1980s, women and labor unions opposed to ERA warmed up to it and began to support it fully. NOW also lobbied for national daycare. For example, the Oak Room held men-only lunches on weekdays until 1971, when Friedan and other members of NOW staged a protest. Harold Carswell, who had opposed the Civil Rights Act granting among other things women workplace equality with men. For example, a question of equality before the law; we are interested in the equal rights amendment. The question of child care centers which are totally inadequate in the society, and which women require, if they are going to assume their rightful position in terms of helping in decisions of the society. Others will be writing things that will help them to define where they want to go. Some will be pressuring their Senators and their Congressmen to pass legislations that affect women. Sacks, Pauli Murray, Dr. Harold Carswell, whose record of racial discrimination and antifeminism made him unacceptable and unfit to sit on the highest court in the land to virtually everyone in the civil rights and feminist movements. That year at the DNC Friedan played a very prominent role and addressed the convention, although she clashed with other women, notably Steinem, on what should be done there, and how. As early as 1965, very early in the movement, and only a year after the publication of *The Feminine Mystique*, Friedan appeared on television to address the fact the media was, at that point, trying to dismiss the movement as a joke and centering argument and debate around whether or not to wear bras and other issues considered ridiculous. She tried to lessen the focuses on abortion, as an issue already won, and on rape and pornography, which she believed most women did not consider to be high priorities. She said, "the whole idea of homosexuality made me profoundly uneasy". Judith Hennessee Betty Friedan: Though her behaviour was often tiresome, I figured that she had a point. Betty wanted to change that for ever. It took a driven, super aggressive, egocentric, almost lunatic dynamo to rock the world the way she did. She simply never understood this. She pursued her feminist principles with a flamboyant pugnacity that has become all too rare in these yuppified times. She hated girliness and bourgeois decorum, and never lost her earthly ethnicity. Some people say that I have mellowed some. She continued to work after marriage, first as a paid employee and, after 1971, as a freelance journalist. The couple divorced in May 1977, and Carl died in December 1981. But Carl denied abusing her in an interview with *Time* magazine shortly after the book was published, describing the claim as a "complete fabrication". My husband was not a wife-beater, and I was no passive victim of a wife-beater. We fought a lot, and he was bigger than me. She was raised in a Jewish family, but was an agnostic.

Chapter 4 : Betty Friedan - Wikipedia

In Betty Friedan Women's Movement and in The Second Stage, an assessment of the status of the women's calendrierdelascience.com Fountain of Age () addressed the psychology of old age and urged a revision of society's view that aging means loss and depletion.

Description The present invention relates to a process for the preparation of finely divided polyolefin molding materials containing conductive carbon black. The above types of polyolefin molding materials which contain carbon black and are devoid of a definite shape are materials which can be converted to shaped polyolefin articles by conventional methods such as injection molding or extrusion. The incorporation of conductive carbon blacks into polyolefin materials is a well-established process for reducing the surface resistivity of moldings produced from the materials, and thereby virtually eliminating the danger of electrostatic charge accumulation. Such products are employed particularly where there is a danger of sparking due to an electrostatic charge, which sparking could ignite highly flammable materials, or cause them to explode. Hence the use of containers possessing antistatic properties is, for example, compulsory in explosion-proof areas. In practice, conductive carbon black is introduced into the polymer by mixing it into the completely molten polymer under shearing conditions. This process may be carried out on the screw kneaders, extruders or internal mixers conventionally used for thermoplastic compounding. The process is, however, not free from problems such as those of accurate dosing of the conductive additive, which generally tends to raise dust, and, especially, the resulting very troublesome soiling of the machinery and of the operatives. Incorporation of conductive carbon blacks into polyolefins by the conventional methods in every case substantially reduces the flow of the polyolefin, so that it is desirable to employ as little of the conductive carbon black as possible. Since high shearing forces necessarily occur during the conventional incorporation of additives into molten polyolefins, the process is furthermore unsuitable for polyolefins which, because of their high molecular weight, suffer irreversible damage by shearing forces. It is an object of the present invention to provide a cheap, clean and precise process, employing simple apparatus, for introducing conductive carbon black into polyolefin molding materials, which avoids the disadvantages of the prior art and gives filled molding materials which can easily be converted to high quality homogeneous moldings. We have found that this object is achieved, according to the invention, if the components a finely divided, partially crystalline polyolefin and b conductive carbon black, with or without c other additives and auxiliaries, are mixed, in a first process stage I, in a mixer, with or without supply or removal of heat, during which first stage I, in a first sub-stage I. The polyolefins are preferably high density polyethylene 0. For the purposes of the invention, polyolefins are regarded as partially crystalline if they exhibit one or more sharp melting peaks on DSC analysis. The conductive carbon black b should have a mean particle diameter of from 10 to 50, preferably from 13 to 40, nm. Examples of suitable auxiliaries and additives c are stabilizers, processing aids, eg. The molding materials can be prepared in a mixer in which the mixing vanes are located at right angles to the mixer axis; such mixers are described, for example, in German Published Applications DAS No. They have hitherto been used in the main for compounding non-crystalline thermoplastics having a broad softening range, eg. However, they can also be used for agglomerating finely divided polyolefins which have poor flow and a broad particle size distribution, resulting in a narrower and coarser particle size spectrum and a higher bulk density, so that the processing characteristics can thereby be improved. Further, it is known that the agglomeration of plastic particles can also be carried out in the presence of additives. We have found, surprisingly, that using the process according to the invention it is possible also to work above the crystallite melting point of the particular polyolefin without causing substantial agglomeration, let alone lump formation, and that by working at such temperatures it is possible to bond conductive carbon black completely and irreversibly to the polyolefin component. The process yields finely divided, free-flowing molding materials which have a similar particle size distribution to that of the polymer employed, contain the carbon black b in a

completely bonded form and can easily be converted to moldings, ie. In the process according to the invention, in a first sub-stage I. The above sub-stages may be followed by a third sub-stage I. Thereafter, in a second stage II , the product is discharged from the mixer within a period of from 0. However, it is also possible directly to process the product further whilst it is plastic, by means of suitable apparatus, without the additional cooling. The process described requires much simpler apparatus and much less energy than, for example, compounding in an extruder. Furthermore it allows the conductive carbon black and any additives to be introduced simply, cleanly and precisely, without a complicated dosing technique and without raising dust. The process has the further advantage that conductive carbon black can be introduced into thermoplastics which are otherwise difficult to process, eg. The amounts of conductive carbon black required to achieve a permanently antistatic character are less than using the conventional method. Furthermore, for a comparable content of conductive carbon black, the product obtained by the process according to the invention also exhibits substantially more advantageous flow characteristics than does a product obtained by conventional melt mixing. The finely divided polyolefin molding materials containing conductive carbon black may be used for the manufacture of moldings by the conventional injection molding, extrusion and blow-molding processes. The Examples which follow illustrate the above process. The above mixture is brought I in a first stage, in a mixer of 1 useful capacity, without external supply or removal of heat I. EXAMPLE 2 25 kg corresponding to parts by weight of a finely divided polyethylene having the same characteristics as in Example 1 and 1. The homogeneous mixture was discharged as strands which were cooled and granulated. The results are summarized in the Table. Claims 1 We claim: US Preparation of finely divided polyolefin molding materials containing conductive carbon black, and their use for the production of moldings Expired - Lifetime USA en Priority Applications 2.

Chapter 5 : Jean Piaget - Wikipedia

From her first exploring of the "second stage," reinforced by many hundreds of interviews and conversations across the nation, the new book evolved. She sighed and got up to go off to an.

A full-size test program was carried out on 26 simply-supported and continuous reinforced and partially prestressed concrete beams to study the cracking behaviour and damping characteristics of concrete beams. The beams were subjected to free vibration tests and logarithmic decrement values corresponding to each load level were measured. Separate regression analyses on the reinforced and the partially prestressed beams were undertaken. These analyses resulted in two separate empirical formulae for predicting the logarithmic decrement of damping in reinforced and in partially prestressed beams. Comparison with test results from all 26 beams indicates that the predictions are accurate. It is also found that the damping formula for reinforced beams is applicable to both single and continuous spans. The proposed damping formulae predict damping from the residual crack widths of the beams. As such, formulae developed for predicting residual crack widths from given variables defining the beams and their deflection-span ratios are also reported. Damping, deflection, logarithmic decrement, partially prestressed concrete, reinforced concrete, residual crack width 1. Jordan may be many times greater than its response to the same concluded from his tests that the material damp- load applied statically. Penzien and Hansen found ing of reinforced concrete specimens increased dramati- the maximum strains produced in a structural element cally as tensile stresses were increased. Also, the rela- stress. In particular, the inforced and prestressed members, is the cracking con- dynamic response characteristics of a structure are very dition. Penzien concluded that the important much a function of its damping properties James et parameter which appeared to influence damping in pre- al. Spencer sug- members may be influenced by many factors including gested that the major source of damping in prestressed the compressive strength of concrete, steel ratio, modu- members might be the inelastic behaviour of concrete Advances in Structural Engineering Vol. Flesch identified crack- The relation between and the amplitudes of two ing as contributing significantly to the damping behav- cycles, n cycles apart, takes the form iour of the reinforced cantilever elements he studied. Heiland et The damping coefficient C, or alternatively the damp- al. This is because, at the stant, is related to the logarithmic decrement as: Viscous damping the cracking condition of concrete structures. Also, there serves to limit resonant motion and is easily incorpo- are no simple and accurate formulae available in the rated into most mathematical models. However, the viscous research to predict damping values for reinforced and assumption is convenient to use analytically and is suf- partially prestressed concrete simply-supported beams ficiently accurate for most purposes Smith, As from their residual crack widths. Formulae for the pre- the measurement of damping in terms of logarithmic diction of residual crack widths using the variables de- decrement is related to viscous damping, the damping fining the beams and their deflection-span ratios are also model used in this study is essentially viscous. The free-decay method is a convenient way for as- 3. A comprehensive test program has been carried out to Accordingly, the 14 reinforced and the 12 partially pre- study the damping behaviour of full-size concrete stressed concrete full-size box beams tested as part of beams. The tests were conducted in two stages. Nine the present study were subjected to free vibration tests reinforced and 12 partially prestressed simply-supported for damping measurements in terms of logarithmic dec- box beams were tested at the first stage. Tested in the rement. Based on the results of 4 reinforced and 4 par- second stage were 2 simply-supported and 3 two-equal- tially prestressed beams, two separate regression analy- span continuous reinforced box beams. For each beam, ses were carried out. These led to separate empirical instantaneous and residual crack widths, and deflections formulae for predicting the logarithmic decrement of at different load levels were measured. Also, the beams damping in reinforced and in partially prestressed con- were subjected to free vibration tests and measurement crete beams. Comparison with the test results from all of the values corresponding to various residual crack the 26 beams indicates that the predictions are accu- widths was made. The beams tested were

of lengths 5. Ordinary Portland cement Type GP was used 2. The lon- Viscous damping is a common form of damping where longitudinal reinforcements consisted of mild steel hot the damping force is proportional to the first power of rolled deformed bars of Australian grade Y with the velocity across the damper. The damping force a minimum yield strength, f_{sy} , of MPa. The measurement method MPa. For the partially prestressed box beams high ten- that relates to viscous damping with its exponential sine tendons having a nominal diameter of 5 mm were decay characteristics, is the logarithmic decrement,. Details of simply-supported reinforced concrete Table 3. Details of partially prestressed concrete test test beams beams The main design properties of the 11 reinforced The residual crack widths of the beams were deter- simply-supported test beams are summarised in Table mined at zero loads after each increasing level of load- 1 with the reinforcing details and geometry shown in ing had been applied. The residual crack width was Figure 1. For the 3 two-equal-span continuous beams much less than the instantaneous crack width and, for similar data are presented in Table 2 and Figure 2; those some of the beams, was too small to measure accurately, for the 12 partially prestressed concrete beams are given especially at the initial stages of the loading. To address in Table 3 and Figure 3. All beams except beams 5, 7, 12, 13 and 14, were measured using Demec strain gauges. They are were loaded symmetrically at two points mm apart. For each speci- were loaded symmetrically at two points mm apart. Details of two-equal-span continuous reinforced concrete test beams crack widths could not be accurately measured using the crack detection microscope. For the damping measurements, the free decay method with hammer excitation as prescribed in Equa- tion 1 was used. For each test, to record the signals produced by the beam vibration, an accelerometer was set up at the cen- tre of the beam or at the centre of each span of continuous beams. During the tests, three excitation positions for each measurement were set up to check the reliability and accuracy of the vibration recordings. To determine the value for the loga- rithmic decrement at each test, the average of the val- ues obtained for the three excitation positions was adopted. Advances in Structural Engineering Vol. Reinforcement details of simply-supported reinforced concrete test beams. For beams 5 and 7: For all other beams: All dimensions are in mm. Reinforcement details of two-equal span continuous reinforced concrete test beams. Reinforcement details of partially prestressed concrete test beams. In any structure a number of mechanisms contribute to the total damping. Thus damping in rein- 18, 22 and Once again, the reasons for their select- forced and partially prestressed concrete beams may be ion were that they incorporate the four degrees of influenced by many factors. In the present work, a total prestressing 0. The beam 22, and 8. The resulting damp- experimental results showed that the effects of steel ra- ing prediction formula for partially prestressed simply- tions, span lengths, compressive strengths of concrete supported beams is: The main factor, which influ- enced the damping values, was found to be the residual Equations 4 and 5 are thus the empirical formu- crack width Chowdhury, ; Chowdhury and Loo, lae obtained for the prediction of damping in terms of a; Chowdhury and Loo, b. Based on the experimental data, a relationship between A_s for the reinforced beams, the relevant data for residual and instantaneous average crack widths w_r and beams 1, 6, 8 and 11 were used in the regression analy- wi, respectively for reinforced and partially prestressed sis. The reasons behind selecting these particular beams beams was developed Chowdhury, and is given are that they represent the three different span lengths as: The regression resulted in the following damp- A regression analysis was employed to develop a Advances in Structural Engineering Vol. Measured versus calculated damping values for reinforced concrete beams. Measured versus calculated damping values for partially prestressed concrete beams. Fragomeni unified formula for the prediction of instantaneous with the test data from all 26 reinforced and partially average crack widths for both reinforced and partially prestressed beams tested. This where f_s is the average steel stress, E_s is the modulus of includes the data from the 3 two-equal-span continu- elasticity for steel, c is the concrete cover, s is the aver- ous beams as well. The first- and the second-stage beams age spacing between the reinforcing bars, is the aver- as well as the simply-supported and the continuous age bar diameter and is the steel ratio defined as the beams are shown separately in this figure. Considering the fact that and Loo, ; Chowdhury and Loo, Since, w_r depends mainly were used, etc. Note that the rather than on alone, extensions of these relationships proposed formula has been

developed from the data of have been made. The relationship so developed for reinforced concrete As all the data points from the 3 two-equal-span con- beams is: The similar relationship for the partially prestressed A similar plot for all 12 partially prestressed con- beams is: There are many formulae available for accurately It may be mentioned here that, for partially prestressed predicting mid-span deflections in simply-supported concrete beams, at low or no residual crack widths the beams or individual spans of continuous beams. Such measured damping values varied widely for the differ- formulae are available for both reinforced and partially ent beams of similar geometrical properties. This may prestressed beams. Probably the most extensively docu- be because of the variation in internal cracking due to mented studies regarding deflection calculations can be different levels of prestressing in the beams. Various other methods have been proposed for the calculation of deflections ACI 7. There An experimental study on 26 reinforced and partially are deflection calculation formulae recommended by prestressed concrete full-size beams was conducted. Based on the test results of 4 reinforced and 4 partially Once the deflection is calculated, residual crack prestressed beams, two separate regression analyses widths can then be determined using Equation 8 or were carried out resulting in two separate damping pre- 9 , respectively for reinforced or for partially pre- diction formulae for reinforced and for partially pre- stressed concrete beams. A comparison with the test data of all the 26 beams shows that the accuracies of the proposed formulae are satisfactory. Working Commissions, 34, 69â€” Modelling, Analy- Gilbert, R. Dr Chowdhury has authored a number of technical papers and his research interests include durability, serviceability, vibration and damping of concrete structures and high strength concrete. His current research interests include the strength and serviceability of concrete structures. In addition to numerous research papers, he has published two books, one on bridge engineering and the other on reinforced concrete analysis and design. His research focussed on the design of concrete wall panels.

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Maxi-cycle is moving from one Stage to the next Mini-cycle happens as a result of a setback (ie. layoff, injury,) Mini-cycles can cause recycling.

Piaget was a precocious child who developed an interest in biology and the natural world. His early interest in zoology earned him a reputation among those in the field after he had published several articles on mollusks by the age of 7. There never was a kidnapper. Piaget became fascinated that he had somehow formed a memory of this kidnapping incident, a memory that endured even after he understood it to be false. During this time, he published two philosophical papers that showed the direction of his thinking at the time, but which he later dismissed as adolescent thought. It was while he was helping to mark some of these tests that Piaget noticed that young children consistently gave wrong answers to certain questions. Ultimately, he was to propose a global theory of cognitive developmental stages in which individuals exhibit certain common patterns of cognition in each period of development. From 1929 to 1933, Piaget worked as a professor of psychology, sociology, and the philosophy of science at the University of Neuchatel. Having taught at the University of Geneva and at the University of Paris, in 1933, Piaget was invited to serve as chief consultant at two conferences at Cornell University March 11-13 and University of California, Berkeley March 16-17. This was as per his request. The resulting theoretical frameworks are sufficiently different from each other that they have been characterized as representing different "Piagets. He received a doctorate in psychology from the University of Neuchatel. He then undertook post-doctoral training in Zurich, and Paris. Sociological model of development[edit] Piaget first developed as a psychologist in the 1920s. Piaget proposed that children moved from a position of egocentrism to sociocentrism. For this explanation he combined the use of psychological and clinical methods to create what he called a semiclinical interview. He began the interview by asking children standardized questions and depending on how they answered, he would ask them a series of nonstandard questions. Piaget was looking for what he called "spontaneous conviction" so he often asked questions the children neither expected nor anticipated. In his studies, he noticed there was a gradual progression from intuitive to scientific and socially acceptable responses. This work was used by Elton Mayo as the basis for the famous Hawthorne Experiments. There is assimilation when a child responds to a new event in a way that is consistent with an existing schema. He claimed infants transform all objects into an object to be sucked. The children were assimilating the objects to conform to their own mental structures. Piaget then made the assumption that whenever one transforms the world to meet individual needs or conceptions, one is, in a way, assimilating it. Piaget also observed his children not only assimilating objects to fit their needs, but also modifying some of their mental structures to meet the demands of the environment. This is the second division of adaptation known as accommodation. To start out, the infants only engaged in primarily reflex actions such as sucking, but not long after, they would pick up objects and put them in their mouths. When they do this, they modify their reflex response to accommodate the external objects into reflex actions. Because the two are often in conflict, they provide the impetus for intellectual development. The constant need to balance the two triggers intellectual growth. To test his theory, Piaget observed the habits in his own children. Elaboration of the logical model of intellectual development[edit] In the model Piaget developed in stage three, he argued that intelligence develops in a series of stages that are related to age and are progressive because one stage must be accomplished before the next can occur. For each stage of development the child forms a view of reality for that age period. At the next stage, the child must keep up with earlier level of mental abilities to reconstruct concepts. Piaget conceived intellectual development as an upward expanding spiral in which children must constantly reconstruct the ideas formed at earlier levels with new, higher order concepts acquired at the next level. Logical concepts are described as being completely reversible because they can always get back to the starting point, meaning that if one starts with a given premise and follows logical steps to reach a conclusion, the same steps may be done in the opposite order, starting from the conclusion to arrive at the premise. The

perceptual concepts Piaget studied could not be manipulated. To describe the figurative process, Piaget uses pictures as examples. Pictures cannot be separated because contours cannot be separated from the forms they outline. Memory is the same way: During this last period of work, Piaget and his colleague Inhelder also published books on perception, memory, and other figurative processes such as learning. Readiness concerns when certain information or concepts should be taught. He considered cognitive structures development as a differentiation of biological regulations. When his entire theory first became known "the theory in itself being based on a structuralist and a cognitivist approach" it was an outstanding and exciting development in regards to the psychological community at that time. In particular, during one period of research, he described himself studying his own three children, and carefully observing and interpreting their cognitive development. The Central Problem of Intellectual Development, he intends to explain knowledge development as a process of equilibration using two main concepts in his theory, assimilation and accommodation, as belonging not only to biological interactions but also to cognitive ones. Piaget believed answers for the epistemological questions at his time could be answered, or better proposed, if one looked to the genetic aspect of it, hence his experimentations with children and adolescents. As he says in the introduction of his book *Genetic Epistemology*: The children experience the world through movement and their senses. The sensorimotor stage is divided into six substages: Simple reflexes; From birth to one month old. At this time infants use reflexes such as rooting and sucking. First habits and primary circular reactions; From one month to four months old. During this time infants learn to coordinate sensation and two types of schema habit and circular reactions. A primary circular reaction is when the infant tries to reproduce an event that happened by accident ex.: Secondary circular reactions; From four to eight months old. At this time they become aware of things beyond their own body; they are more object-oriented. At this time they might accidentally shake a rattle and continue to do it for sake of satisfaction. Coordination of secondary circular reactions; From eight months to twelve months old. During this stage they can do things intentionally. They can now combine and recombine schemata and try to reach a goal ex.: They also begin to understand object permanence in the later months and early into the next stage. Tertiary circular reactions, novelty, and curiosity; From twelve months old to eighteen months old. During this stage infants explore new possibilities of objects; they try different things to get different results. During the pre-operational Stage of cognitive development, Piaget noted that children do not yet understand concrete logic and cannot mentally manipulate information. However, the child still has trouble seeing things from different points of view. Such play is demonstrated by the idea of checkers being snacks, pieces of paper being plates, and a box being a table. Their observations of symbols exemplifies the idea of play with the absence of the actual objects involved. By observing sequences of play, Piaget was able to demonstrate that, towards the end of the second year, a qualitatively new kind of psychological functioning occurs, known as the Pre-operational Stage. The child is able to form stable concepts as well as magical beliefs. The child, however, is still not able to perform operations, which are tasks that the child can do mentally, rather than physically. Thinking in this stage is still egocentric, meaning the child has difficulty seeing the viewpoint of others. The Pre-operational Stage is split into two substages: The symbolic function substage is when children are able to understand, represent, remember, and picture objects in their mind without having the object in front of them. The intuitive thought substage is when children tend to propose the questions of "why? Symbolic Function Substage From two to four years of age children find themselves using symbols to represent physical models of the world around them. The child knows they are not accurate but it does not seem to be an issue to them. Intuitive Thought Substage At between about the ages of four and seven, children tend to become very curious and ask many questions, beginning the use of primitive reasoning. There is an emergence in the interest of reasoning and wanting to know why things are the way they are. Piaget called it the "intuitive substage" because children realize they have a vast amount of knowledge, but they are unaware of how they acquired it. Centration, conservation, irreversibility, class inclusion, and transitive inference are all characteristics of preoperative thought. Children can now conserve and think logically they understand reversibility but are limited to what they can physically manipulate. They are no longer egocentric.

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During this stage, children become more aware of logic and conservation, topics previously foreign to them. Children also improve drastically with their classification skills 4. Children develop abstract thought and can easily conserve and think logically in their mind. Abstract thought is newly present during this stage of development. Children are now able to think abstractly and utilize metacognition. Along with this, the children in the formal operational stage display more skills oriented towards problem solving, often in multiple steps. Developmental process[edit] Piaget provided no concise description of the development process as a whole. Broadly speaking it consisted of a cycle: The child performs an action which has an effect on or organizes objects, and the child is able to note the characteristics of the action and its effects. Through repeated actions, perhaps with variations or in different contexts or on different kinds of objects, the child is able to differentiate and integrate its elements and effects. This is the process of "reflecting abstraction" described in detail in Piaget At the same time, the child is able to identify the properties of objects by the way different kinds of action affect them. This is the process of "empirical abstraction". By repeating this process across a wide range of objects and actions, the child establishes a new level of knowledge and insight. This is the process of forming a new " cognitive stage". This dual process allows the child to construct new ways of dealing with objects and new knowledge about objects themselves.