

The long-term effects of families and educational provision on gifted children

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Why are some children identified as gifted while others of the same potential are not? To find out why and what the consequences might be, in 1974 I began in England with 70 children recognised as gifted. Each of these Target children was matched for age, sex and socio-economic level with two Control children in the same school class (N=210). But where the first Control child had an identical intelligence, the second was chosen at random. Sixty-three schools were involved. Investigation was via a battery of tests and interactive questioning of pupils, teachers and parents in their schools and homes over 35 years. A major difference was that those labelled gifted had significantly more emotional problems ($p < .01$) than either of their Controls. By their mid-40s, whether labelled as gifted or not, high scholastic achievements at school had not reliably delivered outstanding life success. In general, though, the higher the intelligence the more successful the individuals were likely to be as adults in terms of life achievements. The vital foundations of recognisable success for the entire sample were hard work, emotional support and a positive personal outlook. An approach is suggested to increase the proportion of children recognised as gifted.

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DEFINITIONS of giftedness vary to extremes in different cultures so that no individual could fit them all (Freeman, 2005). The term is a social construct reflecting ideas of exceptionally high ability within a society at that time, and can be seen in the selection of children as gifted. Gender differences are particularly sensitive to cultural differences in both identification and achievement, even between Britain and the US (Freeman, 2003). Some gifted children seem to be able to do almost anything brilliantly, whether sport or philosophy, while others are focussed on a single area, usually mathematics or music.

I am using the word 'gifted' to mean outstanding cognitive ability and 'talented' to mean outstanding artistic ability, though the two do overlap and many in this study enjoyed both. (Talent is not specifically addressed here.) Theorists sometimes juggle with the terms, such as Gagné (1999) who describes 'gifts' as the maturation of 'talents' which he sees as potential, or Gardner (1983) who presents the idea of separate 'intelligences' each of which can reach a

gifted level independently of the others.

Giftedness may take many different forms, appearing in unexpected situations and different points during a lifetime, (Subotnik et al., 1993). Indeed, it is not always possible to identify future gifts of children. Winston Churchill is a prime example of a school failure who rose to brilliance. Entrepreneurs are particularly notable, such as Richard Branson who left school at 15 and founded the airline, Virgin, and Bill Gates who dropped out of university.

The Western model of selection for programmes educating the gifted is in direct contrast to the Eastern model of open access for all those who want to learn more, though both concepts operate and overlap around the world (Freeman, 1998; Freeman et al., 2010). In the Western mode, children who fit the accepted descriptions are most likely to be recognised and provided for as gifted, others, such as minorities, the disabled, late starters or the 'wrong' gender, may not be (Freeman, 2003, 2005). The cross-cultural educational achievement survey, PISA (2012) drew a succinct conclusion: 'School

systems that perform well in PISA believe that all students can achieve, and give them the opportunity to do so'. Interestingly, Finland, which normally comes top of this survey, does not offer any special provision for gifted children.

Intelligence measurement is among the best and most resilient success stories in all scientific psychology, according to the American Psychological Association's task force (Neisser et al., 1996). After a century of solid, replicated research, the report concluded that intelligence levels are the preeminent measure to predict life outcomes in education and the workplace, as well as aspects of health such as how long people live. Intelligence appears to have a physical effect too. A step-up of just one standard deviation in IQ in 11-year-old Scottish girls improved their chances of reaching the age of 76 by 25 per cent (Deary et al., 2004). Intelligence, the team found, 'is an indicator of bodily system integrity' rather than social class (Deary & Maltby, 2013).

For the 210 individuals in my 35-year sample, their life-stories have shown that the only real difference between the gifted and everyone else is their potential. But the unique challenges the gifted are presented with and how other people reacted to those differences, could affect the way the children grew into adulthood. Their development was clearly influenced by the context of family life, itself a microcosm of the wider society (Freeman, 2010).

Longitudinal studies of the gifted

The Terman studies in California began in the 1920s by selecting 856 boy and 672 girl 'geniuses' of IQ 130+, eventually producing more than 4000 variables (Terman, 1925-1929). The subjects, aged between 2 and 22, almost entirely the progeny of white university staff, were supplemented with 'occasional recruiting from his colleague's families' (Holahan & Sears, 1995, p.13). As early as 1928, a quarter of the original sample had been replaced. This topping up continued over the years, so that the sample

was neither truly longitudinal nor valid. But it was, of course, interesting and seminal.

Attempting to avoid selecting children by achievement, the Fullerton Longitudinal Study in California from 1979 to 1997 looked at 130 1-year-olds of unknown potential and their families, the only criterion being that they were healthy (Gottfried et al., 1994). Those with a Wechsler IQ of 130 or more were deemed gifted and compared with the others. Early indications of giftedness were identified and parents proved to be good judges. The researchers concluded that giftedness is a developmental phenomenon, which can rise – and fall – over time, with the result that 'late bloomers' could be missed in a single testing.

The Seattle Longitudinal Study was concerned with intelligence (though not focussed on giftedness) since 1956, unfortunately again with a constantly replenished sample which reached 6000 (Schaie, 2005). Intellectual and perceptual abilities remained high for the individuals who stayed active and open-minded. The Munich Longitudinal Study of Giftedness began in 1985 with a sample of 26,000 children, identified on a wide variety of tests (Perleth & Heller, 1994). The team devised 30 identification scales, which disclosed a significant number of gifted under-achievers who were typically found to be more anxious, easily distracted and with lower self-esteem than the high achievers. Little contact, though, was made with the subjects other than via paper and pencil tests.

Many follow-up studies of gifted children are very small-sized, such as the 20-year Australian study of 10 boys and five girls aged 11 to 13 with Stanford-Binet IQs of more than 160 (Gross, 2004). Results were bleak. They were found to have low self-esteem, 'moderate to severe levels of depression', not to mention 'loneliness, social isolation and bitter unhappiness' (p.199), all attributed to inadequate education. As there were no controlled comparisons with any other children, it is difficult to tell whether the 15 were even representative of other Australian

high-IQ children. Six American boy prodigies provided another restricted sample followed-up for 10 years (Feldman with Goldsmith, 1986). Not one boy continued his advantage into adult achievement, a feature of 'hot-housed children' (Howe, 1990).

In a review of 14 American and German follow-up studies of varied design, Arnold and Subotnik (1994) pointed to several important conditions for the development of giftedness, notably identification being related to age-related development: the older the subjects the more reliable the prediction. They concluded that for the greatest reliability, information should be collected at different points in an individual's life, preferably within specific subject areas in which the child shows promise and interest.

Gifted education

Two questions to be asked of all special education for the gifted is how much of the initial boost to achievement is due to the Hawthorne effect, that is, to attention and change, and whether the benefits last over years. In fact, in spite of an initially higher measured achievement and participants' feelings of satisfaction during the programmes, the advantage of gifted education tends to disappear over a few years (White, 1992; Freeman, 1998). For example, 210 New York children selected for the Hunter College Elementary School for the Gifted by nomination and mean IQ scores of 157, were investigated in their 40s and 50s. Compared with their socio-economic and IQ peers who had not experienced that special gifted education they were no more successful in life (Subotnik et al., 1993). Without a long-term perspective, it may not be possible to justify programmes for the gifted.

It is not surprising that carefully selected, bright, keen children given enrichment will learn more than those who have not experienced it. This means that comparisons between the achievements of equally able

youngsters who have attended a particular scheme and those who have not cannot provide reliable evidence of which aspects of that scheme are the most efficient and lasting.

It would not seem wise to copy special gifted education directly from one culture to another without recognising and adapting to differences in background and outlook as Freeman argued (2002). However, an American-style summer school, the National Academy for Gifted and Talented Youth (NAGTY, 2002–2007) was set up in just England and Wales. It was so unsuccessful that the Government investment of about £24m was not renewed and provision promptly ceased. Objective evaluation found that this import had not only alienated schools, but 'key elements of the gifted and talented communities were distanced from rather than drawn to NAGTY' (ACL Consulting, 2009, p.42).

Comparisons between countries are generally made with competitions, such as the Mathematics Olympiad or surveys. National advances and economic success can be compared in terms of education, such as by Lynn and Vanhanen (2002) who identified a positive correlation between assessments of national mental ability and real GDP in a study involving 60 countries.

Extra-cognitive influences

Yet intelligence, however defined and measured, is only part of the complex dynamics of exceptionally high-level performance, which must include extra-cognitive dynamics such as self-esteem, motivation and support – as well as opportunity (Dweck, 2006; Shavinina & Ferrari, 2004; Freeman, 2006). Barab and Plucker (2002), picking up Vygotsky's (1978) (unacknowledged) ideas of the social context of learning, took it further by arguing that perception and cognition are not properties of the individual, but of an environmental transaction, such that giftedness is an opportunity available to all via 'smart contexts' – although it may be actualised more frequently by some. Biometric

studies, involving families, twins and adoptees, provide reliable evidence of the environmental and genetic origins of developmental differences, both interactive and specific (e.g. Plomin et al., 2001).

Of itself, high level school achievement is not likely to produce similar results in adult life (Bradt, 2006). Indeed, Trost (2000) investigating prediction of giftedness in adult life, calculated that less than half of 'what makes excellence' can be accounted for by measurements and observations in childhood: for intelligence it is not more than 30 per cent. The key to success, he wrote, lies in the individual's dedication. For example, of a 15-year follow-up of 82 highest grade earners in American high schools none made outstanding progress in their careers (particularly the women), and by the time they were in their mid-20s many were disillusioned and had given up (Arnold, 1995). Some researchers have suggested optimism as the key to life success (Seligman, 1991; Peterson, 2000; Sternberg, 2003).

Emotional disturbance among the gifted has been more frequently found when it is anticipated by parents (Cornell & Grossberg, 1989; Freeman, 2002). In Germany, parents who termed their children gifted were found to be more achievement-oriented and to diminish their children's emotional expression, typically producing less well-adjusted children than non-labelling parents (Ziegler & Stoeger, 2010). According to Dweck (2006), students who subscribe to a fixed view of their abilities are particularly at risk of distress, as indeed Ziegler and Stoeger found. Heller (2004), in his wide review of the literature, found the label 'gifted' of itself was emotionally disturbing to children.

When parental attitudes of two groups of German children were compared – the gifted (IQ=135, N=151) and those of average intelligence (IQ=102, N=136) (Buch et al., 2006), only the cognitive development variables, notably intellectual and verbal, showed significant differences between the groups, the gifted being more advanced. No differences were found in parental attitudes describing,

for example, personality, social-emotional and physical development. In fact, in an examination of self-reports and reports from teachers and parents with 10-year-old mixed-ability primary school children, gifted intelligence was found to be a big help to popularity (Czeschlik & Rost, 1995).

Overviewing scientific research on emotion in the gifted, Neihart (2002) concluded that it was not significantly correlated with high-level intellect. She suggested that the gifted may be emotionally stronger than the average. Such scientific evidence does not, however, inhibit the popular view of giftedness as associated with emotional problems.

The Freeman follow-up study

In 1974, when I started this study, the widespread image of gifted children was of exotic creatures, rarely more than one found in a class-room, a school or even a district. They were expected to be mostly boys with short-sight and spectacles, suffering devastating emotional problems which cost them normal relationships. A few would play the violin and all would dress in an old-fashioned way as 'little professors'. But in my long involvement with gifted individuals and the non-gifted in their daily lives, I have seen a very different and much more complex picture. I believe that my work and that of others has shifted the perception of the gifted from the image of oddity to that of normal people with something special to offer the world.

This study is unique in two ways:

- It was set up with closely matched control children. By only looking at highly achieving individuals, there is no way of finding out what might have influenced early high-level potential.
- Uncountable hours of in-depth face-to-face interviews with children and parents at home and teachers in schools over 35 years has delved well below the surface of postal, telephone and even researcher-given questionnaires to reach exceptional levels of information and understanding.

Design of the study

Comparisons were made between otherwise matched labelled gifted, unlabelled gifted and random ability children in England. Initially, I wanted to find why some children were labelled as gifted while others – of identical measured ability and school achievement – were not. The investigation used a battery of psychological tests (e.g. intelligence, personality, creativity and music ability) and in-depth interviews with the subjects, their parents and teachers in their home and school environments. This methodology was designed to bridge statistical and in-depth approaches to provide a richer picture than either on its own. Perhaps inevitably over the decades, the research changed its nature, becoming less statistical, to examine the deeper socio-psychological effects of experiences into middle age.

The Target group was 70 children aged between 5 and 14, described as gifted by their parents, almost entirely without testing. They had all joined the National Association for Gifted Children on behalf of their children. The Raven's Progressive Matrices intelligence test (Raven, 1965) was used to measure each parent-identified child and thereby to find two control children for each of them. Whole classes and sometimes (to oblige the head teacher) the whole school was tested. Both First and Second Controls were matched with the Target child for sex, age, socio-economic level, and shared educational experience in the same school-class. The final sample size was $N=210$.

The First Control child was selected by virtue of a score within three raw score points of the Target child, though most were identical, rather than the less precise percentiles. None of the First Control children had been labelled gifted by parents or teachers. As there was no significant difference in the Raven's scores of each Target and their First Control children, the essential distinction between them was whether or not they had been labelled gifted. The Second Control child was taken

at random regarding the Raven's score. The sample's scores ranged from below average to getting every item correct on the test.

Ratings were made of the class and head-teachers' reports on the children's school achievements, behaviour, school ethos and the population the school drew on. Children and their parents were interviewed independently, each with their own piloted and specially designed open-ended questionnaire. All verbal interactions were audio-taped, transcribed and rated. With other data, this produced 229 variables, analysed with orthogonal comparisons and non-parametric analyses. The interview transcriptions were also carefully scrutinised for further information which may not have been anticipated in the original ratings.

Of the whole sample, 170 children were at the 99th percentile of the Raven's Matrices. Stanford-Binet IQs ranged from 46 children with less than IQ120 to 18 children above IQ160. Thirteen children hit the test ceiling of IQ 170. Although it was initially surprising that 30 per cent of the randomly chosen children were also at the 99 per cent level, the reason appeared to be the outcome of the population on which the schools drew. Some of the secondary school Target and Controls were at highly selective schools such as Manchester Grammar School, while a junior school might draw on a leafy suburb. Over the whole sample of 210 families, though, there was wide variation in their circumstances.

Alas, there was attrition due to the customary problems of long-term studies, such as finding people who did not leave forwarding addresses when they moved and some refused to participate further. By 2006 there were 85 subjects aged between 37 and 46: 33 in the Target group, 27 First Controls and 25 Second Controls. There had been no supplementation, and if one of the triad dropped out the other two were no longer included in the research.

Some findings from the Freeman follow-up study

Emotional development

The questionnaires of both teachers and parents were in close accord showing the labelled gifted as having a far higher incidence of problem behaviour and distress than the unlabelled gifted ($p < .01$). The labelled gifted also had significantly more physical problems, such as clumsiness and poor coordination. Analysis of the data showed that it was not gifted intelligence per se that caused these disturbances, but that they were associated with problematic domestic circumstances ($p < .01$), such as divorce, moving home frequently, as well as parental attitudes to TV, homework, punishment, parental behaviour and beliefs. Yet frequently the children's gifts were given the blame for any problems. Although in the same school-class, parents of the Target children made significantly more complaints about school provision than both Control's parents ($p < .01$).

The common assumption that the intellectually gifted have more emotional problems than the non-gifted appeared to be an unjustifiable and dangerous stereotype with two major possible outcomes:

1. It not only raises teachers' and parents' expectations of emotional disturbance in gifted children, young children may even adapt to this expectation, as appeared to be the case in this sample.
2. It encourages subjective assessment by teachers and parents to use emotion as a criterion for the identification of children as gifted.

How other people reacted to the gifted made a big difference to the way the children coped with their special abilities and developed their sense of self to adulthood. A few were exploited for adult benefit, whether at school or home, while for others, their feelings of worth were squashed for being 'too clever'. It could take just a chance put-down to affect a child's life, or the slow grind of parental pressure which could eat away at an individual's self-confidence for decades.

Being gifted means facing unique challenges, notably grade-skipping. The 17 who were grade-skipped in school (by up to three years) described coping with learning among classmates older, bigger and more mature than they were. Sixteen of them said that they would not allow this for their own children. Teenage boys especially were at a disadvantage because of smaller size and parental restrictions, typically that they could not stay out as late as their older classmates. Several lonely accelerated men told me how they deeply regretted the loss of what they saw as a normal childhood where they believed they would have learned social skills and enjoyed leisure activities.

A clear warning against too much academic pressure on gifted youngsters emerged, much of it from schools aiming their pupils towards prestigious universities. Feelings of low worth were not much helped by university counselling services. One particular outcome of being gifted was that youngsters from low socio-economic homes could find themselves in high prestige universities which are still somewhat beset with problems of social-class and snobbery.

Problems with teachers seemed to happen to the gifted more in early school years. This could be refusing them access to appropriate level books for early enthusiastic readers, or simply sarcastic put-downs. In one traumatic instance, the teacher tore up a boy's poem in front of a sniggering class because he had wandered from the set subject. But by the teenage years of greater specialisation, most gifted said that their teachers treated them with respect because they were aware of their high ability.

Both parents and teachers were more likely to treat the labelled gifted differently from their non-labelled gifted controls, whether positively or negatively, not least in stronger pressures for high-level scholarship. Even as children, some of the sample told me how they felt they were living out others' peoples' ambitions. Some rose to the challenge and thrived on it, while others felt they could never live up to expectations

and stayed in less demanding occupations to become 'big fishes in small ponds' (Zeidner & Schleyer, 1999). Others simply ignored their potential, fitting in with the local culture which did not have a place for giftedness.

The long look

This longitudinal research benefitted greatly from audio-recording childhood events and opinions at the time rather than being imperfectly remembered years later. It demonstrated the unreliability of memory even shortly afterwards, sometimes when the same incident was described separately by children and parents, but especially in adults remembering their youth. For example, a student at Oxford University who had been grade-skipped by three years at school and entered at 16 was lonely and tearful a good deal of the time, but 20 years later remembered her three years there as blissful.

Self-concept can affect the take-up of opportunity when youngsters conform to what they perceive as their place in society. Across the decades, I have seen many times how two youngsters of the same high potential reacted to a similar obstacle, such as getting a place at a prestigious university. Where one could not wait to get to grips with the challenge, another would see an overhanging North Face, take fright, and give up.

Having tested and taken careful notes on their personalities from the beginning, I found that whether youngsters were modest, conventional and rule-abiding, or straining to change the world, their personal styles were often still recognisable in adulthood. Poor emotional home circumstances, such as a constant change of 'uncles' in their mother's bed, financial insecurity and fighting parents, did nothing but harm to the possibility of the children's adult excellence – in spite of often considerable efforts by the school.

Teachers encouraged some gifts more than others, particularly science and mathematics, possibly because of easily recognisable outstanding results. Too many

youngsters wasted time and energy following wrong channels because of generally poor educational and vocational guidance. Overall, these British teachers considered giftedness to be equivalent to being outstanding in school achievements, a view shared by fellow educators across most of the world (Freeman et al., 2010).

Werner and Smith (1992) coined the term 'resilient children' to describe successful survivors in poor conditions, but this also seemed to fit the individuals in my sample, gifted or not. The most successful adults were 'engaging', found supportive adults, responsive schools, sometimes sincerely felt religion, had well above-average intelligence and appeared to be best placed for success and happiness. But whether they achieved their doctorates at 21 or shot up the corporate ladder, their primary building blocks were always keenness and hard work, allied with sufficient ability, opportunity and emotionally supportive homes.

High level creativity, as seen in adult careers, demanded a particular type of personality, which is relatively independent of other's opinions and at times requires great courage. The highly successful architect, for example, was a regular school truant who did not do well in his exams and did not show his gifts until years after he left university with a modest degree. But the now successful jazz musician, once a consultant psychiatrist, did suffer from bipolar disorder, as is often found (Kyaga et al., 2013).

In spite of free educational opportunity and teacher encouragement, some of the gifted never managed to fit comfortably into the cut and thrust of intellectually challenging work. For my sample, as so many other researchers have found, it was not precocity, extremely high IQ or school scores, which provided a reliable route to grown-up high achievements – except perhaps for those who continued in a similar path to become teachers at various levels.

In general, it was true that poverty disables and wealth enables. Some of the

gifted accepted their parents' views that the good things in life, such as a professional career, were not for them. The 13 individuals who hit the top of the Stanford-Binet scale at IQ 170 took up a great variety of adult occupations, for example, professional gambler, janitor for a sports club, book shop owner, full-time mother, social worker, international opera singer, or one who never used his very early PhD. I could never have imagined when I met the physically handicapped boy aged 7 in his educationally and financially poor background that he would become a millionaire financial wizard at the age of 34.

In general, those with IQs in the top few per cent did much better in life even than those with merely a very high score, say within the top 20 per cent. The most successful had found ways of organising their powerful mental abilities: they were more aware and made more efficient use of their personal learning styles. This not only helped them in examinations, but they could elaborate on their learning and take it creatively into adult life. The less successful, even those with high IQs, had remained with less mature and less efficient, shorter-term techniques, like rote-memorising their lesson-notes.

But being recognised as gifted is very different for a child than for an adult. For every one of these gifted children, turning their childhood prodigiousness into adult excellence was usually the most difficult challenge. Sparkling potential sometimes had to be pushed aside for tiresome work to pay the mortgage, and fate turned some lives upside down. How each person reacted could be seen as partly related to their intellectual ability to cope, and most importantly to their personalities and approaches to life.

The twists and turns of the lives of the gifted people in my study show that it is vital to take a long view. The way children develop is never smooth nor can their progress be reliably predicted from research snapshots in childhood or the teenage years. Constantly, throughout the decades, it struck me that if I had stopped the research at

normal stages such as an age cut-off or school leaving, the results would have been quite different.

After innumerable hours of interaction and investigation with this sample – the individuals, their teachers and parents – I had to conclude that many influences on happiness and success are like love. It is possible to say how it feels, how it may have come about and what happens because of it, but there is no sure recipe to apply. For the rest, we do have very clear information about what the gifted need by way of support towards self-fulfilment – opportunities to flourish, a positive outlook on life and people who believe in them.

The promotion of gifts

Often from early childhood, domain precocity was distinguishable, such as in mathematics, empathy and creativity. Because specific abilities may develop in particular ways, the earlier these are provided for, the better the outcome, as Subotnik et al. (2011) concluded from their comprehensive survey of research: 'Although the path to outstanding performance may begin with demonstrated potential, giftedness must be developed and sustained by way of training and interventions in domain-specific skills' (p.5).

Giftedness in children is not a one-way process: the child is an active part of the community of home, school and society. For example, socio-economic status and religious belief provided opportunity and direction which children could accept or reject. Although each of the Target children and their two matched Controls had received the same school-teaching, the gifted ones (labelled or not) seemed to get more from it to reach a more successful adult life.

Yet standards alter. International work by Flynn (2012), has suggested a rapidly increasing change in the way thinking and learning are developing. He points out a significant rise in measured intelligence – at least in advanced countries – possibly due to more intellectually demanding work, greater use of information technology and smaller

families. Pertinently, he writes, ‘over the last 30 years, the very bright have made the same gains on the ‘basics’ as schoolchildren in general’ (p.89).

The opportunities offered to the most able in Britain are still uncertain, depending on individual schools, families and education authorities. There is a need to help the gifted who are not able to help themselves to develop their potential for self-fulfilment.

A suggested method is Freeman’s Sports Approach (Freeman, 1998, 2002). This simple and inexpensive model of education for the gifted is based on the way sport is freely provided in schools. It works on identification by provision, providing a ‘smart context’ for learning. More than the assessment of pupils’ achievements, it calls for assessment of the contribution of the educational provision to which the pupil has access. Assessment of provision can be done with a rating scale allied to the children’s achievements so that they can be seen to be excelling within their context, and not penalised because they have had fewer opportunities than others. Freeman’s Sports Approach advocates that given the opportunity and with guidance, the highly able and motivated should be able to select themselves to work in any subject area (where possible) at a more advanced and broader level.

In the same way as those who are talented and motivated in sport can select themselves for extra coaching and practice to be their best, they could opt for, for example, extra foreign languages or physics. Such facilities must be available to all – as sport is – rather than only to those pre-selected by tests, experts or money. It is an inclusive formula. It makes use of a research-based understanding of giftedness, notably the benefit of focusing on a defined area of the pupil’s interest, as well as providing each youngster with the opportunities they need to learn with. This, along with individual commitment, provides a means to increase the proportion of youngsters currently recognised as gifted and talented for the benefit of all – in the same way that sporting talent was enabled to flourish to excellence in the 2012 Olympics. Outstanding performance in children is not an end product – it is the beginning of a lifelong journey.

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