

1: Apartheid - Wikipedia

Divisive Nationalism and the Future Centralization, Globalization, and North America 6 Is Small Size a Stimulus or Obstacle to Separatism? Economic Costs of Separation to Quebec The Structure of World Order and Trade Relationship between the Size of a Polity and Its Economic Growth Empirical Analysis of the Size/Growth.

The Supplemental Nutrition Assistance Program SNAP, previously food stamps is an important public-private partnership that helps families afford a basic diet, generates business for retailers, and boosts local economies. SNAP accounts for about 10 percent of the food that U. SNAP redemptions are a meaningful share of food purchases in our country. Between and , the number of authorized retailers increased by 4 percent. Though SNAP participants in some areas of the country, particularly rural areas, still have inadequate access to food stores, most can easily redeem their benefits. Nationally, there are an average of about 79 SNAP authorized retailers per , people. SNAP increases both food and non-food purchases. Households participating in SNAP spend more on food. By providing more resources for food, SNAP helps free up cash for poor households to buy other essential items, like diapers and medication. As a result, retail sales increase, benefiting stores that sell both food and non-food items. SNAP helps local economies. Because most households redeem their monthly SNAP benefits quickly and because the program helps struggling households purchase adequate food, SNAP is one of the most effective forms of economic stimulus during a downturn. In order to accept SNAP benefits, retailers must apply and meet certain standards. Qualifying stores must sell food for preparation and consumption at home and meet one of two criteria. A retailer must either 1 continuously stock a certain variety of staple foods, including perishables, or 2 have more than 50 percent of its gross retail sales from staple foods. While most authorized stores qualify by meeting the first criterion, specialty stores, like butcher shops, are often authorized under the second. This uniformity promotes efficiency and limits costs for the private sector. Retailers with multiple locations and presence in multiple states can employ consistent operational practices and equipment across their stores. The Food Marketing Institute FMI , a trade association that represents food retailers and wholesalers, recognizes that this benefits the industry and customers alike. We now have a national program with nationally-approved products that is consistent from state to state. It is searchable by state and congressional district. The Appendix to this report lists the number of SNAP retailers in each state and congressional district, by store type.

2: Vibrissal behavior and function - Scholarpedia

6 Is Small Size a Stimulus or Obstacle to Separatism?+ Economic Costs of Separation to Quebec Bogus Science of Primordial Causes for Ethnic Separatism

Apartheid legislation NP leaders argued that South Africa did not comprise a single nation, but was made up of four distinct racial groups: Such groups were split into 13 nations or racial federations. White people encompassed the English and Afrikaans language groups; the black populace was divided into ten such groups. The state passed laws that paved the way for "grand apartheid", which was centred on separating races on a large scale, by compelling people to live in separate places defined by race. This strategy was in part adopted from "left-over" British rule that separated different racial groups after they took control of the Boer republics in the Anglo-Boer war. This created the black-only "townships" or "locations", where blacks were relocated to their own towns. In addition, "petty apartheid" laws were passed. The principal apartheid laws were as follows. This Act put an end to diverse areas and determined where one lived according to race. Each race was allotted its own area, which was used in later years as a basis of forced removal. Under the Reservation of Separate Amenities Act of , municipal grounds could be reserved for a particular race, creating, among other things, separate beaches, buses, hospitals, schools and universities. Signboards such as "whites only" applied to public areas, even including park benches. The Suppression of Communism Act of banned any party subscribing to Communism. The act defined Communism and its aims so sweepingly that anyone who opposed government policy risked being labelled as a Communist. Since the law specifically stated that Communism aimed to disrupt racial harmony, it was frequently used to gag opposition to apartheid. Disorderly gatherings were banned, as were certain organisations that were deemed threatening to the government. Education was segregated by the Bantu Education Act , which crafted a separate system of education for black South African students and was designed to prepare black people for lives as a labouring class. Existing universities were not permitted to enroll new black students. The Afrikaans Medium Decree of required the use of Afrikaans and English on an equal basis in high schools outside the homelands. So-called "self-governing Bantu units" were proposed, which would have devolved administrative powers, with the promise later of autonomy and self-government. It also abolished the seats of white representatives of black South Africans and removed from the rolls the few blacks still qualified to vote. The Bantu Investment Corporation Act of set up a mechanism to transfer capital to the homelands to create employment there. Legislation of allowed the government to stop industrial development in "white" cities and redirect such development to the "homelands". It changed the status of blacks to citizens of one of the ten autonomous territories. The aim was to ensure a demographic majority of white people within South Africa by having all ten Bantustans achieve full independence. Interracial contact in sport was frowned upon, but there were no segregatory sports laws. The government tightened pass laws compelling blacks to carry identity documents, to prevent the immigration of blacks from other countries. To reside in a city, blacks had to be in employment there. Until women were for the most part excluded from these pass requirements, as attempts to introduce pass laws for women were met with fierce resistance. The Senate Act was contested in the Supreme Court, but the recently enlarged Appeal Court, packed with government-supporting judges, upheld the act, and also the Act to remove Coloured voters. Since Asians had never been allowed to vote, this resulted in whites being the sole enfranchised group. A study in the Journal of Politics suggests that disenfranchisement in South Africa had a significant negative impact on basic service delivery to the disenfranchised. Once South Africa became a republic, Prime Minister Hendrik Verwoerd called for improved relations and greater accord between people of British descent and the Afrikaners. The ethnic division would no longer be between Afrikaans and English speakers, but between blacks and whites. Most Afrikaners supported the notion of unanimity of white people to ensure their safety. White voters of British descent were divided. Many had opposed a republic, leading to a majority "no" vote in Natal. Although Verwoerd tried to bond these different blocs, the subsequent voting illustrated only a minor swell of support, [76] indicating that a great many English speakers remained apathetic and that Verwoerd had not succeeded in uniting the white population.

3: Economy of China - Wikipedia

CHAPTER SIX Is Small Size a Stimulus or Obstacle to Separatism? (pp.) According to the previous chapter, contagion alone does not explain the contemporary phenomenon of secession, although tumult in world politics caused by systems transformation can trigger state fragmentation.

A Research Agenda to Support Quality Enhancement Processes Summary of Chapter Recommendations Implementation and evaluation of a national quality enhancement strategy focused on the use of standardized performance measures to monitor and improve quality will require a robust applied health services research capacity. Steps should be taken to ensure that the health services research agendas developed by the various government programs are complementary; address the salient concerns and needs of the populations served and of their care providers; and advance the capabilities of the government health programs in the roles of regulators, purchasers, and providers to promote excellence in health care. The government health care programs should work together to develop a comprehensive health services research agenda that will support the quality enhancement processes of all programs. The Quality Interagency Coordination QuIC Task Force or some similar interdepartmental structure with representation from each of the government health care programs and the Agency for Healthcare Research and Quality [AHRQ] should be provided the authority and resources needed to carry out this responsibility. This agenda for fiscal years FY " should support the following: Establishment of core sets of standardized performance measures b. Ongoing evaluation of the impact of the use of standardized performance measurement and reporting by the six major government health care programs Page Share Cite Suggested Citation: The National Academies Press. Monitoring of national progress in meeting the six national quality aims safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity The QuIC membership should ensure that the experience of the states and the needs of the populations served by Medicaid and SCHIP are reflected in the research agenda. Additional public investments in independent health services research will be critical to both the development and the implementation of the research agenda by the AHRQ and the six major government health care programs. Congress should ensure that the institutional organization and appropriations for health services research are adequate to meet this important objective. It begins with an overview of the current research activities supported by the federal government. The need for coordination of these activities is then discussed. The final section outlines what the committee believes to be the critical research priorities in health care quality. For the most part, the type of research most relevant to the development and implementation of effective quality enhancement strategies is applied health services research. This chapter focuses particular attention on research regarding the development of standardized performance measures, the reporting of comparative quality data, and the provision of financial or other incentives to providers to improve quality. Rather than providing a chronicle of past research that has formed the basis for ongoing quality activities, this section highlights some of the salient research activities currently under way in these agencies. This is not intended to be an exhaustive review of every current quality-related project, but to provide a flavor of the range and types of initiatives being undertaken that are relevant to this report. Agency for Healthcare Research and Quality Created by statute in as the Agency for Health Care Policy and Research, AHRQ administers programs and activities across a range of policy concerns, from access, to care, to cost-effectiveness, to quality of care. Its activities are organized under six separate research centers: AHRQ funds both commissioned and investigator-initiated research efforts designed to enhance quality measurement and improve care. The quality-related research ranges from outcomes research, to performance measurement, to patient safety initiatives. For example, included in the safety agenda are 24 projects examining different methods of collecting and analyzing data to identify factors that create a higher risk of medical errors, 22 projects analyzing how computer technology can be used to reduce errors and improve the quality of care, 8 projects exploring the effects of working conditions on patient safety, and 23 projects focusing on the development of new strategies to improve patient safety at health care facilities Agency for Healthcare Research and Quality, Page Share Cite Suggested Citation: These initiatives fall into three general categories: Evidence-based

practice centers operating from 12 research and medical centers around the country Agency for Healthcare Research and Quality, c synthesize and distill the clinical evidence on interventions for specified conditions. The objective is to provide organizations with a basis for the development of clinical guidelines and in some cases to enable the translation of the available clinical consensus into valid performance standards Agency for Healthcare Research and Quality, d. This translation process occurs through Q-Span, a project designed to expand the scope of valid, ready-to-use measures through cooperative research agreements. Q-Span, due to be completed in FY , develops and tests performance measures for specific conditions, patient populations, and care settings. The Q-Span project is intended to develop or modify measures for use in different settings and populations, thereby filling identified measurement gaps. For example, AHRQ has coordinated PORT studies on asthma, low birth weight, pneumonia, depression, schizophrenia, prostate disease, cataract surgery, dialysis care, and breast cancer Agency for Healthcare Research and Quality, The Translating Research Into Practice TRIP initiative focuses on developing strategies to shorten the time lag between publication of research findings and incorporation of those findings into routine clinical practice. The average amount of time required for research findings to affect direct patient care can be as long as two decades Agency for Healthcare Research and Quality, The 14 projects under TRIP I focus on strategies for collecting data, while the 27 projects under TRIP II examine implementation strategies and their effectiveness in achieving practice changes among providers with different characteristics and clinical populations across diverse settings Agency for Healthcare Research and Quality, In addition to performance and outcome measurement, there has recently been increased interest in improving the use of comparative quality data by patients, purchasers, providers, and policy makers as a quality improvement tool. As interest has grown in evaluating patient perceptions of the care they receive to inform the future selection of health plans, AHRQ has begun working to develop and validate surveys of patient perceptions and to display their results to consumers in useful ways. Research examining patient perceptions of care and its relationship to improved quality is evolutionary. The core of the CAHPS surveys is now applied to other federal programs and the private sector, with questions being added to tailor the survey to specific issues that may be more relevant to specific programs or populations. This survey was designed to enable comparisons of the performance of the FFS and managed care sectors as a whole on selected indicators within a geographic area. Research is also underway to better understand how the information from consumer surveys can be used by QIOs to target quality improvement projects for providers Garg et al. For example, AHRQ has published studies on the comparative performance of health plans in cardiac bypass graft surgery, use of beta blockers after heart attacks, and asthma management Agency for Healthcare Research and Quality, Current efforts at AHRQ focus not only on improving the accessibility of publicly available information but also identifying elements of care that are significant to consumers and purchasers in decision-making. Because of evidence that the types of quality information currently available in the public domain are infrequently used by consumers and purchasers Marshall et al. A great deal more research needs to be done in this area to support the efforts of the various government programs to provide useful information and reports to various stakeholders. Accordingly, AHRQ has issued a Request for Proposals to evaluate and analyze the impact of financial and nonfinancial incentives on improving the quality of care. Developed in collaboration with the National Center for Health Statistics and other federal agencies, this report must identify areas in which health care is improving, declining, or remaining stable; provide evidence to identify care that requires more focused attention; and set forth national performance benchmarks. In addition to its coordination functions, described in Chapter 4 , QuIC sponsors a number of research activities together with AHRQ and other agencies that are funded by the participating agencies. For example, QuIC works with AHRQ to develop risk adjustment methods for performance measurement and collaborates with the Department of Labor in exploring the effects of working conditions in health care institutions on patient safety Agency for Healthcare Research and Quality, ; Eisenberg et al. In addition to its implementation activities, however, CMS engages in a number of quality-related research initiatives, many of which are undertaken in collaboration with AHRQ. Because Medicare is the largest payer in the federal government, CMS has been able to use demonstration projects with providers to test quality improvement and performance models. Its research efforts generally fall into three categories, development

and testing of: Reflecting the increasing prevalence of chronic illness and its implications for future care needs see Chapter 2 , much of this research focuses on quality oversight in nonacute settings, such as nursing homes and home care. Research on nonacute settings presents an opportunity for evaluating the integration of quality oversight across setting and providers. In a collaborative effort involving CMS, patient advocacy groups, private-sector quality organizations, providers, researchers, and other government agencies, DQIP identified seven core measures for diabetes care, streamlining the multiplicity of measures for diabetes see Appendix B. It then created a toolbox to implement a measurement and reporting process. The DQIP performance measures have been adopted by the larger federal health programs and are implemented in all 50 states Fleming et al. As part of the QIO Seventh Scope of Work see Chapter 4 , CMS developed a home care demonstration project to test the Outcomes-Based Quality Improvement Technology, a systematic approach to measuring outcomes and targeting care processes that require improvement in home health agencies. This technology enables the QIOs to work with individual home health agencies to identify areas in which outcomes across the patient census are substandard, identify provider-specific causes of poor outcomes, and compare the practices of the home health agency with a clinical synthesis of best practices. Expanded to a pilot project in five states, the Outcomes-Based Quality Improvement Technology collaboration operates with a 67 percent participation rate by home health agencies Thoumaian, In addition to these major demonstration initiatives, the Health Care Quality Improvement Program, implemented by the QIOs, formulates evidence-based performance measures for use in its initiatives, primarily in Medicare, to improve care. The QIO Support Centers project engages in a synthesis of the clinical literature around targeted conditions as the foundation for developing quality indicators Centers for Medicare and Medicaid Services, Substantial attention has been directed toward enabling better public disclosure of quality information. Assessing how better to engage beneficiaries in the public disclosure elements of quality oversight provides a focus for Medicare CAHPS-related research. CMS has devoted particular attention to developing tools for public disclosure of comparative quality data for nursing homes. It began a six-state demonstration project in January to collect and publish quality information on nursing homes in Colorado, Florida, Maryland, Ohio, Rhode Island, and Washington. The data are based on performance measures developed through publicâ€™private collaboration by CMS, the industry, consumer representatives, and the National Quality Forum. The data collected were published in April The pilot is testing alternative approaches for public disclosure of data to determine which approaches Page Share Cite Suggested Citation: Finally, CMS is developing a solicitation for a demonstration project to test ways of financially rewarding physicians for improvement in outcomes and process measures. However, the creation of financial incentives to improve quality has not been the focus of research efforts Klauser, ; Treiger, Centers for Disease Control and Prevention Consistent with its public health mission, CDC has developed many projects for tracking the care delivered to patients, particularly when patient safety issues are involved. For example, it has created a voluntary system for acute hospitals to report nosocomial infections to CDC. It has also developed performance measures related to health promotion and disease prevention issues and established a set of performance measures to define expectations. In addition, it has created a number of performance measure sets for preventive interventions and screenings, such as counseling for smoking cessation, pneumococcal immunization for seniors, and colorectal cancer screening. CDC is also examining structural measures for quality through its Translating Research into Action for Diabetes TRIAD program, which is investigating the association of eight structural factors with quality of care and patient outcomes Institute of Medicine, b. Health Resources and Services Administration HRSA conducts grant and contract funding programs to improve access to health care and serves as an indirect provider of care. It has built an expanding community-based network of primary and preventive health care services. Current HRSA-sponsored research includes a study of the disparities between what is known about caring for people infected with HIV and current clinical practices, projects that demonstrate the efficacy of interventions for high-risk populations, and studies of service provision to Page Share Cite Suggested Citation: The range of these activities includes an assessment of emergency room services provided to young victims of violence and an evaluation of the effectiveness of a quality improvement initiative for improving HIV care. To these ends, HRSA has created a patient satisfaction survey for its direct providers of care that differs somewhat from the

CAHPS survey used by Medicaid; consequently, most community health centers for which Medicaid is a major payer must administer multiple surveys. Through collaboration with grantees, HRSA has also developed and implemented evidence-based chronic care performance models for the management of diabetes, asthma, and depression. In addition, HRSA conducts evaluations of the efficacy of its patient safety protocols. National Institutes of Health While applied health services research has not been the focus of NIH activities, quality-related health services research is conducted within each of the Institutes. Reflecting its scientific and medical research mission, NIH focuses much of its research on evaluating the relative effectiveness of different clinical interventions and delivery arrangements in producing desired outcomes; developing clinical data to lead to the development of treatment guidelines; and improving public access to medical and clinical information, such as the results of clinical trials. Similar to the TRIP initiative in AHRQ, research efforts also have focused on strategies to improve the assimilation of research findings into community practice. In addition to research on developing outcome and process measures, NIH examines the relationship of performance measures and guidelines to outcomes across different settings of care, thereby testing the validity of quality measures. For example, the National Institute of Mental Health conducts research involving separate studies to determine how the implementation of treatment guidelines for depression and schizophrenia affects outcomes and processes of care. It also tests whether evidence-based protocols for improving the quality of care for depression are effective across multiple settings and delivery systems. The National Heart, Lung, and Blood Institute evaluates strategies that can be used in clinical practice to improve the implementation of national, evidence-based clinical practice guidelines for the treatment of heart, lung, and blood diseases and related conditions. Focusing on the delivery of medical care, this research evaluates the factors that affect the adoption of a selected guideline in community practice. The research is designed to identify barriers to the implementation of guidelines and factors that can enhance adherence to guidelines. The Diabetes Research and Training Centers of the National Institute of Diabetes and Digestive and Kidney Diseases focus on developing and implementing approaches to improving the acceptance of guidelines. The purpose of this translation effort is to develop and test evidence-based diabetes educational modules, targeted professional training, and active community outreach. Its research is structured through a number of programs and centers, including the Patient Safety Centers of Inquiry and the Quality Enhancement Research Initiative. The Patient Safety Centers of Inquiry were created to analyze the elements of and develop better tools for improved patient safety. Accordingly, it is developing and testing a portable training kit that consists of simulations of adverse safety incidents, blueprints for safety meeting discussions and the development of safety minutes, blueprints for team cross-checking to minimize errors by identifying categories of collaboration, and guidelines for developing patient-directed infomercials that enable patients to cross-check readily identifiable elements of different interventions e. The GAPS Center also examines human-computer interactions to evaluate the kinds of errors likely to arise with electronic order entry and to develop mechanisms for overcoming the patterns of potential error identified through the research. The Patient Safety Center of Inquiry at Palo Alto focuses on the development of systemic solutions to safety issues found in workforce training, organization, and workload. For example, the center examines data comparing incident responses in hospitals with those of naval aviators to identify baselines for achieving goals associated with changing safety cultures.

4: Kurdish–Turkish conflict (–present) - Wikipedia

Drawing on a variety of perspective, Charles Doran examines why Canadian unity is important not only to the United States but also to other liberal democracies around the world.

Sectors The new tax bill will probably boost GDP growth, as intended—but that boost could make the US economy more fragile. Our new forecast, then, suggests that recession is more likely than before. The chances remain good that the economy will stay strong this year and next. In this case, the good news is the fiscal stimulus from the Tax Cuts and Jobs Act and the Bipartisan Budget Act of , since more money in the pockets of households and businesses leads to more spending. That means faster GDP growth over the next two years. Recessions are born out of economic and financial imbalances that get out of hand. That might, in the end, be the outcome of the large increase in government borrowing over the next few years. It also reflects the difficulty that the Fed could face in making monetary policy, and a rather larger chance than we saw last year that the Fed might misjudge the state of the economy. Whatever the symbolic impact of these tariffs, their direct effects would not alter our forecast substantially, since primary metal production accounts for less than 1 percent of US GDP. However, the tariff does increase the risk of a broad trade war that could cover products accounting for a significant share of US production. This remains part of the forces driving our low scenario, for which we have placed a relatively high probability of 20 percent. A trade war would also increase financial fragility in companies affected by the rise in costs and therefore underlines our judgment that the probability of a recession is higher than it was a few months ago. The good news Extra demand will likely lead to more production and revenues—indeed, the official congressional scorekeepers estimate the additional demand to be almost 1 percent of GDP. Granted, this probably overstates the impact, for several reasons. First, the economy is probably near full employment. That means that some of the impact will be felt in higher inflation rather than more real activity. Second, interest rates are likely to rise faster than we previously expected as demand heats up. That will moderate demand for debt-financed goods and services such as houses and cars. Finally, capital costs have been very low for a long time. Despite this, investment growth has been modest, suggesting that capital costs are not a factor in holding back investment. The business tax cuts may help keep the cost of capital low, but the impact on investment may be lower than pre-Great Recession research might have suggested. For these reasons, the baseline Deloitte forecast shows a jump of only about half a percent in GDP in compared to the previous baseline. The bad news Even the rosiest scenarios suggest that the US fiscal deficit will rise quite a bit over the next couple of years. As the global recovery picks up, other assets will become more attractive, and demand for US Treasuries is likely to fall. The combination of growing supply and falling demand creates a risk—a risk that the market could move quickly in the wrong direction. The large stimulus also creates a challenge for the Fed. If signs of inflation begin to appear, the pressure will be on for more aggressive monetary policy. The impact of higher interest rates, however, will be felt only after some time. And by , the spending from the budget agreement will likely be falling, creating a drag on the economy. The Fed may have to make a difficult choice between risking higher inflation and risking seeing interest rates slow the economy just as the stimulus comes off. Wrong choices have created recessions before, and this type of dilemma might just lead to such a result. Given this, we have increased our subjective probability that a recession will occur in the next few years to 15 percent. Our scenario reflects one possible way that could occur—a financial crisis in that overwhelms the government stimulus feeding into the economy. We do not show this story explicitly. We still regard the chances of a recession to be relatively remote. There are no immediate signs that the economy could stall out. And the most likely path for the economy remains strong growth in the next two years, followed by a period of substandard growth as the economy adjusts to full employment. The baseline 55 percent probability: Consumer spending continues to grow. A pickup in foreign growth helps to tamp down the dollar and increase demand for US exports, adding to demand. Fiscal stimulus from the tax reform bill and the budget agreement pushes growth up to close to 3. With the economy near full employment, the faster GDP growth creates inflationary pressures. The Fed responds with an aggressive interest rate policy, and long-term rates rise quickly as alternative assets abroad become more appealing. A

small increase in trade restrictions adds to business costs in the medium term, but this is offset by lower regulatory costs. As the impact of stimulus fades and the economy feels the effect of higher interest rates, growth slows below potential in and Policy mistakes and risky financial market decisions in the United States, Europe, and China trigger a global financial crisis. The Fed and the European Central Bank act to ease financial conditions, and the financial system recovers relatively rapidly. GDP falls in the fourth quarter of and first two quarters of , and then recovers. Slower growth 20 percent: Business tax cuts do not induce much investment spending, while households save their tax cuts. Meanwhile, the administration places significant restrictions on US imports, raising costs and disrupting supply chains. Businesses hold back on investments to restructure their supply chains because of uncertainty about future policy. GDP growth falls to less than 1. Productivity bonanza 10 percent: Technological advances in manufacturing begin to lower corporate costs, as efficient deregulation improves business confidence. Improved infrastructure boosts demand in the short run, and capacity and the productivity of private capital in the long run. The economy grows 3. Sectors Consumer spending The household sector has provided an underpinning of steady growth for the US economy over the past few years. Even while business investment was weak, exports faced substantial headwinds, and housing stalled, consumer spending grew steadily. That has enabled households to continue to increase their spending. When it comes to spending decisions, political noise is just thatâ€”in the backgroundâ€”to consumers who are focused on their own situations. As long as job growth holds up and house prices keep rising, consumer spending will remain strong. And the tax cut, while modest for many consumers, will likely help to keep consumers confident that they can spend. More important, the fiscal stimulus from the tax bill will likely tighten the job market even further. If wages begin to rise, consumer spending is likely to get a further boost. The medium term presents a different picture. After all, excitable pundits kept assuring them that the technology transforming their lives would soonâ€”any day nowâ€”make them all wealthy. But now they are wiser and older, which is another challenge, as many baby boomers face imminent retirement with inadequate savings 4. That may constrain spending and require higher savings in the future. That could be a shock, since a key feature of the current consumer boom is a decline in the savings rate from an average of 6. For more about inequality, see *Income inequality in the United States: What do we know and what does it mean?* Consumer news Real consumer spending growth picked up at the end of to 0. Confidence has remained at remarkably high levels, likely reflecting the state of the labor market. Real disposable personal income is growing more slowly about 0. Headline retail sales were very strong until December, then went flat. Sales at auto dealers fell in the Novemberâ€”January period, although this may have been a drop-off after sales boomed to replace cars destroyed in the late summer hurricanes. Housing Every year, thousands of young Americans abandon the nest, happy to leave home and start their own households. But more than usual stayed put after the recession: We expect those young adults would prefer to live on their own and create new households; as the economy continues to recover, they will likely do exactly thatâ€”as previous generations have. This means some positive fundamentals for housing construction in the short run. Since , the United States has been building fewer new housing units than the population would normally require; in fact, housing construction was hit so hard that the oversupply turned into an undersupply. But the hole is shallower than you might think. Several factors offset each other: If household size returns to levels of the mids, we would need an additional 3. Vacancy returning to normal would make available an additional 2. But are the existing vacant houses in the right place or condition, or are they the right type, for that pent-up demand? The future of housing may look very different than in the past. Growth in new housing construction has been concentrated in multifamily units. While economic growth and job creation may point to strong house sales, higher interest rates may moderate any potential housing boom. Higher inflation and a strong Fed response may drive up mortgage rates more quickly than businesses in the housing sector would like. Housing news Housing permits were 7. Single-family permits are up 7. The share of single-family permits has been growing for some months. Contract interest rates have held steady at about 4. House prices continue to rise: In August, the Case-Shiller national index was 6. Business investment The key question for business investment in the next year or so is the impact of the tax reform bill. The bill contained four main components that could affect business investment at the aggregate level.

5: Some GOP Governors Balk At Stimulus Money - CBS News

Higher inflation rates are now a significant risk because of the size of the stimulus being applied to the economy this year. Price news The overall CPI was up percent in January, sparking some worries about accelerating inflation.

Portions of his signature legislative achievement, ObamaCare, federal courts ruled unconstitutional [8] and was credited as a major cause of uncertainty, high unemployment, [9] lagging job creation, [10] and risk of a credit default crisis. A significant rise and emboldment in jihadi recruiting occurred under Obama. Economic Policy The Obama administration initially followed what fiscal conservatives and libertarians call ruinous fiscal policies and reckless monetary policies. Washington has done more during Mr. A revised bill passed the Senate with three Republican votes. Detroit spread gloom on Feb. By August, both Chrysler and GM had entered bankruptcy, and come out again in much smaller size, as they closed a fourth of their dealerships, slashed wage rates, and repaid creditors with 29 cents on the dollar. The government gave Chrysler away free to Fiat of Italy, which acquired ownership without investing any money. Meanwhile, the part makers, which employ more workers than the Big Three automakers, verged on disaster and begged for billions. President Obama and Treasury Secretary Geithner both got an average grade of 70 out of 100 for their handling of the financial crisis, but those grades varied widely. By contrast, Fed chairman Bernanke scored much better, with an average grade of 85. They gave equally poor marks to the efforts of other countries to end the recession. The economists, however, were broadly supportive of the Federal Reserve. The budget allowed the Obama health plan, which had not yet been written, to move through Congress on a fast track with no risk of filibuster. The budget reordered priorities to provide national health care and raise the federal spending on schools. Conrad called for "more discipline on the spending side. Administration forecasts were more starry-eyed than private sector forecasts. Both parties agree that stimulus spending is needed to deal with the recession but Congress is unlikely to approve permanent new spending programs unless the economy improves, since a large number of conservative Democrats were elected who may vote with Republicans to keep down spending and deficits. The Democratic Congress failed to pass, and President Obama did not sign, a budget for fiscal year 2010, as required by law. Experts warned the President that deficits of this size were not sustainable in the long run because the federal debt cannot indefinitely grow faster than economic output. Eventually, a greater and greater share of national income would be devoted to interest payments, until eventually the government would be forced to finance the debt through money creation inflation or default. The President emphasized his proposal to freeze for three years non-defense discretionary spending. Obama proposed funding the program with higher taxes "on wealthy Americans". Obama was unconvincing to most Americans. Few saw any advantage in his proposals, and everyone can see the monumental costs. Contrary to his campaign vows for openness and transparency in government, Obama cut closed door back room deals with big drug companies and insurers, and was not upfront with the American people. Polls show a steady decline in support for Obamacare as the public learned more about it. Bailouts After spending over a trillion dollars in cash and guarantees by Bush and Obama combined, the bailout of the financial system by October seemed to have rewarded the big banks but failed to stimulate the economy and job creation. Obama started to decline in the polls, as independents and Republicans became increasingly critical. Geithner was appointed to the Treasury largely on the basis of his work at the New York Fed, where his most important action was to design the bailout of AIG. Geithner plans to sell toxic assets to Wall Street With major banks on the verge of failure, Treasury Secretary Timothy Geithner unveiled yet another massive bailout program in mid-February. Trillions would be spent to move toxic assets out of the banks, but few details were provided. The widespread reaction was very negative, and Geithner lost more of his credibility as a problem solver. Geithner finally came back with a plan on March 23 that did not need additional funding or approval by Congress. In June some of the major banks started to repay their federal loans. US job losses January 1-March 31, The Federal Reserve in June said conditions deteriorated in many regions of the country, with commercial real estate and labor markets in deep trouble. The Fed did not forecast a significant boost in economic activity in 2009. Despite costly government efforts to encourage borrowing, it remained very difficult for consumers and businesses to obtain

loans. Liberals dislike all these new ideas. The Obama administration wants to create a national "Internet ID" card to expand its goal of a government-controlled system. However, the IRS drew considerable public attention and Congressional investigations for its treatment of applications for non-profit status. Domestic affairs See also: Barack Hussein Obama Obama Administration and illegal immigration The Obama Administration proposed "comprehensive immigration reform" which would tie together increased border protection, a path to citizenship for illegal immigrants already in the United States, and reform of the visa process. Although a bipartisan bill emerged in the Senate, immigration reform was never adopted by Congress. In the absence of a new law, President Obama sought adopted Executive Orders to prioritize deportation actions against illegal immigrants who violated laws. During his eight years, Obama deported more illegal aliens than did George W. In his memoir, liberal Democrat U. Gulf oil spill disaster The New York Times has reported since January the Obama administration has approved at least three huge oil and gas lease sales, seismic blasting projects and oil drilling plans. They are technologically very advanced. Uranium One bribery scandal According to court filings in the United States District Court for the District of Maryland, in , the FBI began an investigation into corruption and extortion by senior managers of Tenex, a subsidiary of Rosatom, a Russian entity. From April to April , the wire transfers went to Wisser Trading, registered in the Seychelles. Federal agents used a confidential U. They also obtained an eyewitness account "backed by documents" indicating Russian nuclear officials had routed millions of dollars to the U. Rather than bring immediate charges in , however, the Department of Justice DOJ continued investigating the matter for nearly four more years, essentially leaving the American public and Congress in the dark about Russian nuclear corruption on U. Multiple current and former government officials told The Hill they did not know whether the FBI or DOJ ever alerted committee members to the criminal activity they uncovered. These payments, according to Campbell, Mikerin called the "system" or "window". Cambell was worried about this agreement and went to the FBI, where he was asked to continue to participate in the kickback scheme, giving the bureau all the information. Moreover, the appetite of Tenex grew. In , Mikerin allegedly extended the contract for 11 months in the interests of Tenex. Mikerin was arrested on a complaint describing a racketeering scheme that stretched back to and included extortion , fraud , and money laundering. But Mikerin was permitted by Rod Rosenstein to plead guilty to an offense charged under the catch-all federal conspiracy provision section that criminalizes agreements to commit any crime against the United States. Some of the details of the Uranium One deal and "the future of the energy industry" were worked out in a private meeting between Bill Clinton. The Justice Department instructs prosecutors that when Congress has given a federal offense its own conspiracy provision with a heightened punishment as it has for money laundering, racketeering, narcotics trafficking, and other serious crimes , they may not charge a section conspiracy. Section is for less serious conspiracy cases. To avoid the perception of conflicts of interest, beyond the ban on foreign government donations, the foundation was required to publicly disclose all contributors. None of the Uranium One shareholders donations were disclosed after the Rosatom approval. Those contributions were not publicly disclosed by the Clintons, despite an agreement Mrs. Clinton had struck with the Obama White House to publicly identify all donors. Other people with ties to the company made donations as well. And shortly after the Russians announced their intention to acquire a majority stake in Uranium One, Mr. Putin personally thanked Mr. Clinton was thanked personally by Russian President Vladimir Putin after the speech. Clinton email scandal Man article: Obama insisted that Clinton had not intended to endanger national security. Intent is not an element of the criminal statutes relevant to the handling of classified information. Obama acknowledged that classified information had been transmitted via Sec. James Comey wrote an internal memorandum saying Hillary Clinton and others were guilty of gross negligence which is punishable by up to 10 years imprisonment. In the absence of prosecution, security or administrative sanctions are the norm. No oath, video, or transcript was made. Strzok also conducted liaison with other intelligence community agencies, including the CIA led by Director John Brennan. Risen and a colleague reported on warrantless wiretaps. In a frontpage May 13, story the torture program was exposed with Risen as the lead reporter. Even the FBI is shocked. Murrow Award, named for the journalist who had the courage to challenge Sen. CBS News investigated and found evidence of multiple unauthorized accesses by a third party in late Donahoe and

unnamed agents of the US Department of Justice , the US Postal Service and the United States claiming to have been subjected to illegal surveillance activities and 4th Amendment violations of their civil rights. The assassination of Osama bin Laden raised bin Laden from a coward in hiding to the status of hero-martyr in the cause of jihad, and became the impetus for increased recruiting as the West went into retreat from the battlefield. The states of Libya , Yemen and others were destabilized. Barack Obama and Hillary Clinton actively intervened in Syria and Libya, funnelling money and weapons to known Salafi jihadi groups. The powers that be remained in control of secular Egypt. Iran , with Western acquiescence, remained firmly on the path to becoming a nuclear power.

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2. *General strategies for the design of stimuli-responsive carriers. The stimuli that can be exploited for triggering the release of a theranostic agent from a carrier are diverse, but they can be broadly classified into two major types: internal and external.*

Their decisions must consider the net benefits and costs of a range of options for achieving these objectives by using the polygraph and other techniques for detecting deception that may supplement or substitute for the polygraph. This chapter considers some of those alternative techniques. It focuses in particular on the potential of recently emerging technologies, including those that measure brain activity, some of which have recently received considerable attention, and those that rely on measures of externally observable behaviors. In Chapter 7 we take up issues involved in making policy decisions about the use of these techniques, including ways of assessing the costs and benefits of using particular techniques and ways of combining techniques. Techniques for detecting real and potential violations of security can be roughly divided into four classes. The first class includes, but is not restricted to, the polygraph itself. This class considers physiological indicators of autonomic and somatic activity that are not detectable without special sensing equipment. In this chapter we discuss some of the members of this class other than the polygraph. The second class includes techniques involving observations of brain function. This class is attractive on grounds of basic psychophysiology because of the possibility that appropriately selected brain measures might get closer than any auto- Page Share Cite Suggested Citation: The Polygraph and Lie Detection. The National Academies Press. The fourth class is based on overt, direct investigations and includes employment questionnaires; background checks; and employee surveys, questionnaires, and paper-and-pencil tests. We consider each of these in turn. The goal of all of these techniques is to detect deception by analyzing signals of changes in the body that cannot normally be detected by human observation. The physiological phenomena recorded by the polygraph are only a few of the many physiological phenomena that have been characterized since the polygraph was first introduced and that might, in principle, yield signals of deception. The polygraph relies on measurements of autonomic and somatic activity. That is, it analyzes signals of peripheral physiological activities associated with arousal and emotion. The traditional measures used in polygraph testing are cardiovascular i. These are among the oldest measures used by psychophysicists. A wider variety of visceral events can now be recorded noninvasively, including myocardial contractility, cardiac output, total peripheral resistance, skin temperature thermography , and vascular perfusion in various cutaneous tissue beds Blascovich, ; Cacioppo, Tassinary, and Berntson, a. Several of these measures provide clearer information than traditional polygraph measurements about the underlying neurophysiological events that produce visceral adjustments. Given appropriate measurement contexts and controls, for instance, respiratory sinus arrhythmia can be used to reflect cardiac vagal activation, and myocardial contractility e. Because some of these measures are closer than polygraph-based measures to the specific physiological processes associated with arousal, there are theoretical reasons to expect that they might offer better indicators of arousal than those used in polygraph testing. However, although some of these measures have advantages over polygraph measures on grounds of theoretical psychophysiology, they may not actually map more closely to psychological variables. Like the polygraph indicators, measures such as myocardial contractility and respiratory sinus arrhythmia are influenced by sundry social and psychological factors e. These factors might result in false positive test results if an examinee is aroused by something other than deception e. Despite these caveats, various researchers have proposed the use of some of these autonomic measurements as alternatives or adjuncts to the four basic channels that are part of the standard polygraph measurement instrument. The limited research on these measures does not offer any basis for determining where they may fit in the array of possible physiological measurements. The studies generally report on the accuracy of tests using a particular measure in small samples or in uncontrolled settings. A recent report on thermal imaging illustrates the difficulties we have had in assessing whether these peripheral measures are promising and precisely how research on them should be pursued. In , investigators at the U. Department of Defense Polygraph Institute DoDPI , collaborating with outside researchers, carried out a pilot study Pollina

and Ryan, using a comparison question format polygraph for a mock crime scenario with 30 examinees who were trainees at an army base. Thermography has an important potential advantage over the polygraph in that it does not require an examinee to be hooked up to a machine. Five of the original examinees in the study were dropped because they were uncooperative or had other problematic behavior. Of the remaining 25, 12 were programmed to be deceptive and 13 were programmed to be nondeceptive. The outside researchers published a report Pavlidis, Eberhardt, and Levine, claiming that the thermal imaging results alone achieved higher accuracy than the polygraph on nondeceptive examinees 11 of 12 subjects correct for thermal imaging compared Page Share Cite Suggested Citation: Unfortunately, the published report uses only a subset of the examinees and offers no information on the selection process. It also gives no information on the decision criteria used for judging deceptiveness from the thermographic data. The DoDPI researchers were interested in the possibility of combining the new information with that from the traditional polygraph channels. This required a new effort at computer scoring, as well as an explicit effort at extracting statistical information from the thermal recordings. The DoDPI report indicates moderately high correspondence with experimental conditions for polygraph testing an accuracy index [A] of 0. Despite the public attention focused on the published version of this study in Nature Pavlidis, Eberhardt, and Levine, , it remains a flawed and incomplete evaluation based on a small sample, with no cross-validation of measurements and no blind evaluation. It does not provide acceptable scientific evidence to support the use of facial thermography in the detection of deception. By their very nature, polygraph measurements provide an extremely limited and indirect view of the complex underlying brain processes. A reasonable hypothesis is that by looking at brain function more directly, it might be possible to understand and ultimately detect deception. This section discusses some brain measurement technologies that are beginning to be explored for their ability to yield techniques for the psychophysiological detection of deception. Functional Brain Imaging Over the past 15 years, the field of cognitive neuroscience has grown significantly. Cognitive neuroscience combines the experimental strategies of cognitive psychology with various techniques to actually examine how brain function supports mental activities. Leading this research are two new techniques of functional brain imaging: Their use to study brain activity associated with deception is only beginning. PET uses a measure of local blood flow, which invariably accompanies changes in the cellular activity of the brain of normal, awake humans and unanesthetized laboratory animals for a review, see Raichle, More recently it has been appreciated that these changes in blood flow are accompanied by much smaller changes in oxygen consumption Fox and Raichle, ; Fox et al. These changes lead to changes in the actual amount of oxygen remaining in blood vessels at the site of brain activation i. Because MRI signal intensity is sensitive to the amount of oxygen carried by hemoglobin Ogawa et al. Research with fMRI is now providing increasingly detailed maps of human brain function. Several recent studies provide the beginnings of a scientific underpinning for using fMRI measures for detecting deception. These studies include research on knowledge and emotion. For example, some recent work e. In addition, to the extent that deception is associated with increased activation of circuitry associated with anxiety, activation of the amygdala and regions of the prefrontal cortex both reliably accompany certain forms of anxiety Davidson, Such studies can help build a theory linking deception to psychological states and specific physiological correlates that might be applied in the future to develop neuroimaging methods for the detection of deception. Other research is examining the connections between brain activity and phenomena that the polygraph measures. For example, at least five studies combining functional imaging both PET and fMRI with simultaneous measurements of the skin conductance response have investigated the brain basis of the conductance response Critchley et al. These studies show that it reflects a complex interplay in areas of the brain implicated in both emotion regulation and attention. These studies are complemented by parallel studies in patients with well- Page Share Cite Suggested Citation: The results of these studies underscore the complexity of the circuitry involved and also illustrate how the relationship between brain function and behavior can be understood in more detail when information on the former is directly available. More immediately relevant to the use of fMRI for the detection of deception are the very few recent studies that use fMRI to identify associations between deception and specific brain activity. One recent study adapted the guilty knowledge test format for use with fMRI Langleben et al. In 23 normal subjects, it was possible to

detect localized activity changes in the brain that were uniquely associated with deception. Remarkably, these changes occurred in areas of the brain known to participate in situations involving response conflict Miller and Cohen, In the study, the conflict involved overriding one correct response and providing a second false or deceptive response to a question. Another study Spence et al. The findings from this experiment indicated that during lying, compared with truthful responding, examinees exhibited significantly greater activation in the ventrolateral prefrontal cortex and the medial prefrontal cortex. Activation in several additional regions differentiated less strongly between the experimental conditions. In yet another recent study, Lee and colleagues instructed some subjects to feign a memory problem and deliberately do poorly on two memory tasks. One involved memorizing a three-digit number and reporting its correspondence with another number presented 2. The findings from this study revealed a distributed set of activations that included several regions of the prefrontal, parietal, and temporal cortices, the caudate nucleus, and the posterior cingulate gyrus. The above studies suggest what might in principle be achieved by using a technique such as fMRI for the detection of deception. They also suggest the kinds of information needed in brain-based studies of detecting deception. These investigations seek to identify signatures of particular kinds of cognitive activity in brain processes. Yet even if fMRI studies could eventually identify signatures of acts of deception, it would be premature to conclude that fMRI techniques would be useful in practice for lie detection. Applied fMRI studies of the kinds done so far have similar limitations to those of typical laboratory polygraph research. They have limited external validity: They also have some similar limitations at the level of the basic science. For example, the brain regions activated by deception in the research on feigned memory impairment are activated not only during deception. Their activation probably reflects the very complicated constellation of cognitive and affective processes that are involved in particular kind of task. Identifying areas of brain activation that are specific to deception is not on the horizon, and it is by no means clear that such areas will ever be identified. There are also several major methodological obstacles to be overcome in the use of fMRI for the detection of deception. First, studies with fMRI, including those mentioned here, involve the averaging of information over examinees. While such a strategy is enormously powerful for understanding general processes within the human brain, it ignores the need to obtain information on particular individuals that is central to the use of fMRI in the detection of deception. Only recently has work begun on the study of individual differences with fMRI, and much more will need to be done to optimize signal and reduce noise in such images so as to take individual differences into account. While this is very likely to be achieved in time, fMRI analysis is expensive and time-consuming sometimes as long as 2 to 3 hours per examinee , and the analysis of these data is likely to remain complex for the foreseeable future. For these reasons, fMRI is not presently useful for the psychophysiological detection of deception in many applied settings, and the complexity of analysis may be a prohibitive factor for all applications, for quite some time. Nonetheless, much valuable new information can be learned from research using this powerful technique to advance theoretical understanding of the kinds of cognitive processes involved in deception and perhaps to identify the brain mechanisms underlying countermeasures designed to prevent its detection. Acquisition of such information will be important if new and more effective techniques for detecting deception are to be developed. EEG and Event-Related Potentials Caton was the first to show that electrical activity of the human brain can be detected from electrodes placed on the scalp. Since then they have been successfully exploited for diagnostic as well as research purposes. Davis was the first to notice event-related changes in the EEG that have subsequently become known as event-related potentials. Page Share Cite Suggested Citation:

7: Obituaries - , - Your Life Moments

Typically experiments with excitable tissue, small external electrodes are used to inject charge into the coupled cells where the stimulus duration is changed in order to alter the amount of injected charge.

Bound Zionward, four hundred Saints, From Liverpool we started. In a variety of regional accents belonging to the English, Irish, Scots, and Welsh, they affirmed in the chorus their reason for undertaking the voyage: They were not, of course, the first Britons to view America as Zion; an earlier group of "Saints" had viewed their settlement in New England as part of a divine plan to civilize the wilderness and set the light of true religion upon a hill. But these Mormon counterparts of Pilgrims and Puritans were no less avid in their belief that their journey was but a precursor to the establishment of the kingdom of God on earth, aided and abetted by one of the most efficiently organized mass emigration schemes to ply the Atlantic routes. Faced with rebellion and subversion when his Kirtland Safety Society Anti-Banking Company failed, Joseph Smith, the prophet of the "New Dispensation," saw the church shaken to its roots by apostasy and dissension. From the midst of the turmoil, Joseph declared that the Lord had revealed to him "that something new must be done for the salvation of His Church. Beginning in Preston, Lancashire, the Mormon missionaries within a few years had spread into Wales, Scotland, and Ireland, and the infusion of loyal blood that Joseph Smith had desired eventually began to swell and sustain the church-ordered society at Nauvoo, Illinois. A Scottish minister who visited the city in observed that "Nauvoo. Given a common language and similar cultural roots, it is not surprising that men and women from the British Isles have since those early years played such a significant role in the affairs of the Mormon church. They were not, however, the first British citizens to leave their impress upon the territory that in time became Utah. A Captain Welles, a British army officer and veteran of Waterloo and New Orleans, shared with Miles Goodyear in the establishment of one of the earliest permanent settlements in Utah when they built Fort Buenaventura on the Weber River in , the year before Mormon immigrants entered the Salt Lake Valley. From the first pioneer company to enter the Salt Lake Valley in July through the arduous journey of the handcart pioneers and the much later "Pullman pioneers," there was a marked British presence in Utah. In Franklin D. Richards led a company of some one hundred thirty British Saints to Utah and so reestablished large-scale Mormon migration, the practice having been temporarily discontinued during the exodus from Nauvoo. During that period, almost two out of every ten persons in Utah had been born in Britain, while two out of every three foreigners in Utah were of British origin. The reduction in the percentage of British-born residents in the last two decades of the nineteenth century can be accounted for in part by the large influx of Scandinavian and German immigrants and by a tapering off of British immigrants. This trend continued into the twentieth century, so that by the British-born population in Utah was a mere 2. Of course, some defected before reaching the promised land and others had resided in Canada and the United States before joining the trek to Utah. As the conversion rate declined, so also did the numbers of potential and actual immigrants. Generally urban dwellers in the old country, Britons continued to be urban in the United States; in the period 40 percent of all British-born residents in the United States lived in the fifty largest cities. Those counties with sparsest populations 0. The family names of British immigrants dot the Utah map as villages, towns, and areas. The latter town, in Sanpete County, was perhaps the only settlement inhabited by an entirely British-born population, although it was not the first distinctively Welsh settlement in Utah. As early as Dan Jones and Reese Williams had located a group of Welsh immigrants in a settlement near the "English Canal" on the west side of the Jordan River near present-day Granger. The farming venture failed, however, and by it was referred to as the "old Welsh settlement. In two-thirds of the Irish lived in Salt Lake County and vicinity. Summit County with its mining community of Park City accounted for some 14 percent of the total Irish population in and ; Juab County had 11 percent. Dwyer, most Irish were Catholics , so clearly demonstrated in the make-up of the populations of two adjacent towns in southern Utah, Saint George and Silver Reef. Saint George with its emphasis on agriculture, stability, and "humble domestic virtues" had but one Irish-born resident, a male, in In contrast, Silver Reef, a "worldly" mining community, the very antithesis of Mormon Saint George, had an Irish-born population of eighty-six males and twenty-five

females, 26 percent of the total foreign-born population. If they had done no more, their physical presence at a time when Utah was lacking in population could be considered important. As it was, they were more than just place fillers--they were colonizers and imperialists in a sense, but they claimed the land not for the kingdom of Great Britain as their kin had done in India, Australia, Africa, and New Zealand, but for the kingdom of God. Their desire, too, was to "have a part of the soil we can call our own and work it for ourselves and own no master but our God. The Sixth Epistle requested that if some of the brethren who are tanners, would come home and attend to their calling here, they would receive the blessings of many souls. Some attempts are now making at this business, but more help is wanted. John Taylor expressed the ideal when he claimed that the people in Utah would not need to send to Sheffield for tools, " The Deseret Pottery, established by using pottery workers from Staffordshire, was abandoned in ; the sugar mill with machinery and operators imported from Britain was also aborted after the first attempts. Initially given impetus by a call to Ayrshire shepherd John Murdoch and his collie to herd sheep for Brigham Young, the woolen mills were operated by men and women trained in the English and Scottish mill towns. At a farewell party John sang: Farewell then my kindred, my home and my all When duty requires it we bow to the call. We brave every danger and conquer each foe To the words of the Prophet, Oh, then let me bow. But, trained in another land as they were, they brought with them indirectly the "wealth" Britain had invested in their training. Whether it was in herding sheep, making rope, tanning leather, mining coal, or manufacturing bicarbonate of soda, these immigrants made positive material contributions to the development of their new home with a minimum investment from their adopted homeland. Henry McEwan, a Scottish immigrant who later became first president of the Deseret Typographical Association, Local , in led the "Printers of Deseret" in this parade, followed by the blacksmiths led by Jonathan Pugmire of Carlisle, England. The carpenters and joiners marched under a banner of "Union is Strength" led by English architect and builder Miles Romney. The painters followed another British artisan, Edward Martin, as did the Boot and Shoe Makers under Edward Snelgrove and the stonecutters led by Charles Lambert who had been an active member of a trade union in his native land. If one includes those residents who were born of British parents in Canada or the United States including Utah , the British contribution in terms of percentage makes up 36 percent of the total entries. Three percent of these British-born residents came to Utah as infants, 15 percent as children, 24 percent were in their teens, 52 percent were adults, and 5 percent were between forty and fifty years of age. Only 1 percent were in their sixties. The median age of these colonists was twenty-two; and they came not primarily as individual adventurers but as members of stable families. Of this particular group, approximately fifty were involved in agriculture despite an urban origin ; the others were related to professions, building trades, and other commercial pursuits. Only 8 of the British-born were not Mormons, and only 12 of the entries mentioned were engaged in mining. Donnellan and Matthew Cullen of whom it was said, "The career which he has made entitled him to a front rank among pioneers of the state. Samuel, Joseph, David, and Matthew. Although Latter-day Saints, the Walker brothers broke with the church in the s. Refusing to pay tithes to the church, they offered to set aside money for charitable purposes. For their defiance, coming as it did during a period when Mormon leadership was attempting to resist Gentile challenges to its hegemony in Utah, the Walker brothers were excommunicated and ostracized, but they nevertheless succeeded. Boyd Park in jewelry, Charles Nibley in sugar and lumber, William Silver in mechanical engineering and iron manufacturing, David Eccles in banking, Henry Dinwoodey in furniture manufacturing; the roster of distinguished Britons is virtually endless. Cannon, in the process. The reader who follows the life of a man like Henry Hamilton of Fifeshire, who came to Utah in , finds recorded not acts of leadership or feats of daring, but the day-in, day-out fight against ever-present poverty and hunger, grubbing his land by hand, trading his blanket for wheat seed, hiring out to do chores for others, being dismissed from one job because of being slowed down by a sunburned leg and yet, withal, raising his hand to sustain the brethren and having a "right good time of it" at religious meetings. In describing the contribution of these ordinary folk, Edward W. Tullidge told how they brought not only their skills and technical knowledge but also the tools of their trade and the best of their personal possessions to the promised land: Samuel Francis of Wiltshire had been involved in the manufacture of woolen goods in Britain and attempted to do the same in Utah without success. Shetland Islander John Sutherland had spent most of his life

on the sea and had plied the United States coast in trading ships. His move to Utah left him unemployed, shipwrecked as it were, and he and Francis turned to agriculture. Devoting their lives and industries toward general results as a community, the emigrants were directed by the bishops over the whole extent of country mapped out by the authorities to be subdued by Mormon industry and enterprise. Thus, a people originally artisans and manufacturers, became agricultural in their pursuits of life; and it was not until the last decade, under the new era and development of the railroads and mines, that they resumed their original activities. Whether Mormon, Gentile, or dissident, they labored with diligence to produce if not quite the kingdom of God then a relatively successful secular economy in the Great Basin. Despite the seriousness with which Mormon settlers took the task of building the kingdom, they found time for recreation. Notwithstanding his New England puritanism, Brigham Young had taken part in stage plays in Nauvoo; and as the Saints moved westward, music and dance continued to be very much a part of social life. According to Tullidge, three men, Hiram B. Caine, and David O. Calder the latter two being British immigrants were instrumental in convincing Brigham Young that early Utah society "needed toning up" in a professional sense. Thomas who had had wide experience in metropolitan orchestras in London and who, according to Tullidge, transformed the Mormon Tabernacle Choir from an ordinary country church choir into a "fairly metropolitan" group that performed good anthem music to the delight of the congregation, the majority of whom had come from the musical cities of Great Britain. The majority of the citizens in and were fresh from a land of theatres--where the common people for generations have been accustomed to go to the theatre and to the philharmonic concerts, to see the best of acting and hear the divinest singing, at a few pence, to the galleries. Such a community could not possibly have got along without their theatre, nor been content with their isolation without something to awaken pleasurable reminiscences of the intellectual culture and dramatic art of their native land. Their sagacious head sensed all this, and he at once gave to the newly formed "Musical and Dramatic Company" the "Old Bowery," where the congregation of Saints met Sabbath days, and it was there--in the only temple or tabernacle Zion had in those days--that home theatricals took their rise. But even at that, when one examines the accounts of cultural activities in early Utah, the British presence is dominant. Within a week he was on the stage of Social Hall; and in time John McCullough, the American critic, described him as the best Polonius he had ever seen, no mean accomplishment for the immigrant apprentice engraver. MacFarlane are among the immigrant composers, musicians, and song writers whose names and words are still on the lips of thousands of Utahns today. Brigham Young, no doubt intending to impress the commissioners with the Mormon resolve to resist, called on David Dunbar, a Scottish immigrant, to sing "Zion," the words of which say in part: In thy mountain retreat God will strengthen thy feet: On the necks of thy foes Thou shalt tread. The commissioners were suitably impressed; and after several stormy sessions, a peaceful settlement of the movement of the troops was concluded. In Utah was fortunate to have an enterprising and congenial Irish book-man from Tipperary who played the role of community intellectual through his vending of books and magazines and his liberality in allowing his back rooms to be used for educational meetings and community dialogue. One such writer was John Lyon, the Mormon poet from Kilmarnock, Ayrshire, who, prior to his conversion, had written an report on unemployment in Scotland for the British House of Commons. As a Mormon he put his pen at the service of another social cause, the Perpetual Emigrating Fund, and helped many a poor British family go "home to Zion" with proceeds from the sale of *The Harp of Zion* published at Liverpool in Staines, the territorial librarian. The son of relatively affluent and Eton-educated John E. Tullidge of Weymouth, England, Edward was converted to Mormonism in After serving as an editor of the church publication *Millennial Star* and as an active proselytizer for the church, he felt "called" to write a history of Joseph Smith and came to Utah in to pursue this. In in cooperation with an English friend, Elias L. The magazine soon became identified as "anti-Mormon"; and although its publisher disclaimed any attempt to destroy Mormonism, it was condemned by the church and ceased publication after only five issues. Stenhouse and his wife Fanny. Natives of Dalkeith, Scotland, and Jersey, Channel Islands, respectively, the Stenhouses began as fervent defenders of the faith in the British Isles, on the Continent, and in America, but, according to historian Ronald W. Walker, through such books as his *Rocky Mountain Saints* and her *Tell It All* they eventually "helped to fashion throughout the United States and Great Britain the negative image of nineteenth century Mormonism.

Stenhouse in particular played a prominent role as a publisher, patron of the arts, and as a university regent. His literary skills and sophisticated perceptions were also recognized by the non-Mormon press in the East and in California. The education of women was still viewed as an unnecessary frill, and those women in Utah who wished to enlarge their cultural or intellectual horizons had to rely almost entirely on informal educational institutions.

8: Factors influencing the latency of simple reaction time

Simple reaction time (SRT), the minimal time needed to respond to a stimulus, is a basic measure of processing speed. SRTs were first measured by Francis Galton in the 19th century, who reported visual SRT latencies below ms in young subjects.

The use, distribution or reproduction in other forums is permitted, provided the original author s or licensor are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms. This article has been cited by other articles in PMC. Abstract Simple reaction time SRT , the minimal time needed to respond to a stimulus, is a basic measure of processing speed. However, recent large-scale studies have reported substantially increased SRT latencies that differ markedly in different laboratories, in part due to timing delays introduced by the computer hardware and software used for SRT measurement. We developed a calibrated and temporally precise SRT test to analyze the factors that influence SRT latencies in a paradigm where visual stimuli were presented to the left or right hemifield at varying stimulus onset asynchronies SOAs. Experiment 1 examined a community sample of subjects ranging in age from 18 to Mean SRT latencies were short , ms when corrected for hardware delays and increased significantly with age 0. As in previous studies, SRTs were prolonged at shorter SOAs and were slightly faster for stimuli presented in the visual field contralateral to the responding hand. Stimulus detection time SDT was estimated by subtracting movement initiation time, measured in a speeded finger tapping test, from SRTs. SDT latencies averaged ms and were unaffected by age. Experiment 2 tested subjects ranging in age from 18 to 82 years in a different laboratory using a larger range of SOAs. Precise computer-based measurements of SRT latencies show that processing speed is as fast in contemporary populations as in the Victorian era, and that age-related increases in SRT latencies are due primarily to slowed motor output. More recent studies have shown significant correlations between SRT latencies of processing speed and measures of fluid intelligence Deary et al. Indeed, Jensen argued that SRT latencies provide one of the most objective metrics for comparing processing speed, and hence fluid intelligence, across different populations. In a recent historical meta-analysis, Silverman found that SRT latencies have increased substantially since the Victorian era. For example, in studies performed from to , Francis Galton recorded visual SRT latencies that ranged from to ms in subjects ranging in age from 18 to 60 years Johnson et al. These latencies are considerably shorter than those reported in recent SRT studies Lowe and Rabbitt, ; Deary et al. Given the correlation between SRTs and fluid intelligence Deary et al. However, an alternative explanation of the apparent SRT slowing is that the SRT latencies reported in recent studies have been inflated by hardware and software delays in computer-based paradigms Dordonova and Dordonov, In support of this argument, contemporary studies using mechanical SRT measurements Montare, ; Eckner et al. This line of reasoning implies that SRT latencies have been consistently overestimated in computer-based studies performed over the past several decades. These variations suggest that the magnitude of SRT overestimation may vary as a function of the paradigm and the computer system used for testing. One possible explanation for these variations is variable timing delays introduced by computer hardware and software that can increase measured SRT latencies by up to ms Neath et al. Therefore, in the current experiments, we used carefully calibrated computer hardware and high-precision computer software see methods that provided accurate computer-based SRT latency measurements, enabling corrections for hardware and software delays. Table 1 Studies of age-related changes in visual simple reaction time SRT.

9: Economic policy of the Barack Obama administration - Wikipedia

The polygraph is the best-known technique for psychophysiological detection of deception. The goal of all of these techniques is to detect deception by analyzing signals of changes in the body that cannot normally be detected by human observation.

Vibrissal sensing is most often studied in rodents, aquatic mammals, and most recently in shrews insectivores. Brecht has provided a morphological analysis of vibrissae systems in ten mammalian species including examples from marsupials, rodents, insectivores, pinnipeds, and primates, concluding that the presence of multiple rows of macrovibrissae increasing in length along the rostrocaudal axis is a shared feature of mammalian vibrissal sensing systems. Ahl, has also reviewed comparative data from a wide range of mammalian groups, concluding that there is great variation between species but low variation within species, and arguing that these differences in vibrissal morphology could provide useful clues to function. For instance, a study of Old World field mice genus *Apodemus* found that a smaller facial vibrissal field was associated with a burrowing lifestyle and a larger field with a more arboreal one. Vibrissal function in a number of tactile sensing specialists is explored in the articles on seals Hanke and Dehnhardt, , manatees Reep and Sarko, , Etruscan shrews Roth-Alpermann and Brecht, . These studies provide islands of illumination, in a predominantly dark comparative landscape; much further research is needed to characterize the natural variation in vibrissal sensing systems across the different mammalian orders. By far the largest amount of research has concerned the facial vibrissae of mice and rats, which therefore form the main focus of the remainder of this article. Active control of vibrissal movement In rats and mice the facial whiskers are repetitively and rapidly swept back and forth, during many behaviors including locomotion and exploration. Movements of the whiskers are also closely coordinated with those of the head and body allowing the animal to locate interesting stimuli through whisker contact, then investigate them further using both the macrovibrissae and an array of shorter, non-actuated microvibrissae on the chin and lips see Figure 2. Movement of the vibrissae and its measurement is discussed at length in Zeigler and Keller and Knutsen A video illustrating whisking behavior in rats is available here. The mobile macrovibrissae are often used to locate objects that are then investigated further with the shorter, non-actuated microvibrissae on the chin and lips. In these example high-speed video frames a rat locates a coin with its macrovibrissae top frame and, in the next whisk cycle bottom frame, brushes the microvibrissae against the coin surface. From Fox et al. Whisking is observed in only a sub-set of animals possessing prominent macrovibrissae. Although whisking appears to be most prominent in rodents, there are several rodent genera, such as capybara and gophers, that do not appear to whisk, and others, such as guinea pigs, that display only irregular and relatively short whisking bouts Jin et al. Whisking behavior has not been observed in carnivores e. In animals such as rats and mice, that are capable of whisking at high frequencies, the whisking musculature contains a high proportion of type 2B muscle fibers that can support faster contractions than normal skeletal muscles Jin et al. A comparative study of whisker movement in rats, mice, and the marsupial *M. The presence of whisking in both rodents and marsupials implies that early mammals may also have exhibited this behavior, with evidence of similarities between the whisking musculature of rats and the marsupial opossum adding further support for the idea of a whisking common ancestor for modern mammals Grant et al. Frame from a high-speed video recording with side-on and top-down views showing bilateral asymmetry of whisker movements during contact with a wall. The whiskers on the side of the snout closest to the wall protract less, which may serve to reduce bending against the surface; the whiskers on the opposite side protract more, which may serve to increase the number of whisker-surface contacts. From Mitchinson et al. Since rapid movement of the vibrissae consumes energy, and has required the evolution of specialised musculature, it can be assumed that whisking must convey some sensory advantages to the animal. Likely benefits are that it provides more degrees of freedom for sensor positioning, that it allows the animal to sample a larger volume of space with a given density of whiskers, and that it allows control over the velocity with which the whiskers contact surfaces. In addition, the ability to employ alternative whisking strategies in different contexts, may constitute*

an important gain. In other words, vibrissal specialists may whisk for the same reason that humans carefully and repeatedly adjust the position of their fingertips whilst exploring objects with their hands, and adopt different exploratory strategies depending on the type of tactile judgement they are seeking to make see Klatzky and Reed, In both vibrissal and fingertip touch, better quality and more appropriate tactile information may be obtained by exerting precise control over how the sensory apparatus interacts with the world. Evidence to support this "active sensing" view see Prescott, Diamond et al. First, conditioning studies have shown that rats can be trained to vary some of the key parameters of whisking, such as amplitude and frequency in a stimulus-dependent manner Bermejo et al. Second, recordings of whisker movements in freely-moving animals, show that this often diverges from the regular, bilaterally-symmetric and synchronous motor pattern that is usually observed in head-restrained animals. In the freely-moving animal, asymmetries see, e. Figure 3 , asynchronies, and changes in whisker protraction angle and timing have been noted some of which seem likely to boost the amount of useful sensory information obtained by the animal. Unilateral contact with a nearby surface tends to reduce whisker protraction on the side of the snout ipsilateral to that contact and increase protraction on the contralateral side Mitchinson et al. Such a strategy would tend to increase the number of contacts made with a surface of interest whilst ensuring that the whiskers do not press hard against the contacted object. Other work has shown that the frequency of whisking, the starting position of the whiskers the minimum protraction angle , or the angular spread between the whiskers, could each be controlled in a context- or behavior-specific way Berg and Kleinfeld ; Carvell and Simons ; Sachdev et al. Perhaps the strongest evidence that whisking control is purposive, in an active perception sense, comes from a study of sightless rats trained to run up a corridor for food Arkley et al. Animals that were trained to expect obstacles at unpredictable locations in the corridor tended to run more slowly, and push their whiskers further forward, than animals trained to expect an empty corridor. The growing evidence for active control of whisker movement also implies that the vibrissal system can provide an accessible model for studying purposive behavior in mammals. Whisker clipping in infants disrupts early post-natal day nipple attachment and huddling Sullivan et al. One of the most interesting and demanding uses of the vibrissal sense is in predation. For instance, pygmy shrews are known to prey on insects such as crickets that are themselves highly agile and almost as large as the shrew itself. Rats are also efficient predators that can detect, track, and immobilise prey animals without vision see, e. These vibrissal perceptual functions are considered in more detail next.

Localising, orienting, and tracking Object localization and distance, orientation detection. Rats have been shown to use vibrissal information in the following tasks: This finding illustrates the primacy of vibrissal tactile sensing over vision in these animals with regard to depth perception. Contact of the macrovibrissae with a surface often brings about orientation towards that surface which is then further explored using both the macro- and micro- vibrissae Brecht, ; Hartmann, When the various modulations of active whisking control are considered together it is possible to consider them as part of a general orienting system that both moves the tactile " fovea ", at the tip of the snout, towards points of interest, and, at the same time modifies the positions of the whiskers in the wider array in a way that should increase the number of whisker contacts within an attentional zone Mitchinson and Prescott, ; Mitchinson, The importance of vibrissae to prey-capture in shrews Anjum et al. In the case of the Etruscan shrew, effective use of the whiskers in prey-capture appears to be experience-dependent Anjum and Brecht, Tactile discrimination Texture discrimination. Air, or water, currents are effective stimuli for generating responses to vibrissal signals e. Compared to texture microgeometry , shape and other macrogeometric properties are relatively poorly studied in rats. Experiments in shrews, using artificial prey replica, suggest that these animals may respond to some macrogeometric properties of prey animals Anjum et al. This result is indicative of vibrissal short-term memory and of some enumerative capacity in the vibrissal system. Locomotion The emergence of active whisker control alongside locomotion during development Grant et al. However, it appears that the vibrissal sense may be used in different modes in support of locomotion depending on speed of travel. Specifically, in rats, walking appears to be accompanied by broad whisker sweeps, whereas running is accompanied by the protraction of whiskers in front of the animal with much less forward-and-back oscillatory movement Arkley et al. This pattern suggests a switch from using the whiskers to explore the floor surface, perhaps to find good locations for

footfalls, to one where the whiskers are primarily used for obstacle detection and collision avoidance. The value of whiskers in complex locomotor tasks, such as climbing, is also indicated by evidence that small arboreal mammals, particularly nocturnal ones, have longer macrovibrissae than similar ground-dwelling species Ahl, ; Sokolov and Kulikov, Whilst arguing against a close coupling between whisking and running, they suggest a likely role for the mystacial vibrissae in foot placement, in addition, they found that the carpal wrist vibrissae may assist the animal in monitoring its speed of movement. Experiments with movement on more complex surfaces, and in the absence of light, will be needed to better understand the importance of the vibrissae to locomotion control in rodents. The role of vibrissae in locomotion. Left, when exploring a novel environment a rat typically keeps its snout close to the ground making many whiskers contacts and performing broad whisking sweeps. Centre, in a familiar environment, when motivated to move quickly, the head is held higher with fewer whiskers contacting the ground; the vibrissae are pushed forward, making smaller sweeps, and suggesting a role in obstacle detection and collision avoidance see Arkley et al. Right, scansorial tree-living and nocturnal rodents, such as this dormouse, have longer whiskers, implying a role for the vibrissae in climbing, particularly in darkness. Social behavior In rodents, the vibrissae are also used during social behaviors. Typically, during encounters between resident and intruder rats, physical contact is often initiated by whisker-to-whisker contact, followed by potential aggressive behavior. A study of whisker-to-whisker interaction in rats found that the social context of the interaction modulates whisker-related activity in primary somatosensory cortex Bobrov et al. Development of vibrissal function Figure 5: Huddling behavior of 6-day old rat pups. Vibrissal system development has been studied most extensively in rats. Rat pups are born with an intact whisker field constituted of very fine, immobile vibrissae, that are invisible to the naked eye. The onset of active whisking control emerges a few days after the initial appearance of synchronised bilateral whisking Grant et al. Micro-movements of the vibrissae in the first week of life have also been observed Grant et al. Rat pups are able to orient to contacts with nearby conspecifics before their eyes open implying an important role for the macrovibrissae in maintaining contact with conspecifics Grant et al. The emergence of vibrissal tactile sensing in rats may parallel the gradually increasing motor capacities of these animals that allow adult upright locomotion to occur around the same time as whisking onset. Tactile experience may be very different for neonatal rats than for adults both because of the small size and relative immobility of the whiskers, and because rat pups spend much of their time in "huddles" with littermates which is likely to produce stimulation of the whiskers from many different directions. Vibrissal behavior in rats, aged between 2 and 21 days old, is illustrated in this video. Conclusion Interest in the rodent vibrissal system has often stemmed from its accessibility as a model of mammalian sensory processing, rather than from the perspective of trying to understand its role in the life of the animal. For this reason, an accurate characterization of the contribution of vibrissal touch to rat or mouse behavior is some way off. We contend that such an understanding will be important for understanding the processing of vibrissal signals throughout the brain ; after all to understand how a system works it should certainly help to know how it is used. A feel for the dark. A short article on vibrissal function written for the magazine California Wild by Kathleen Wong. Internal references Ahissar, E and Knutsen, P Vibrissal touch in pinnipeds. Tactile attention in the vibrissal system. Tactile hair in manatees. Vibrissal touch in the Etruscan shrew. Object localization with whiskers. Biological Cybernetics 98 6: Ahl, A S Evidence of use of vibrissae in swimming in *Sigmodon fulviventer*. The role of vibrissae in behavior - A status review. Veterinary Research Communications 10 4: Relationship of vibrissal length and habits in the Sciuridae. Journal of Mammalogy 68 4: Tactile guidance of prey capture in Etruscan shrews.

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